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ABSTRACT

In 1984, a research study was conducted to document whether magnet schools provide quality education and promote racial/ethnic balance. As a result of the study it was found that magnet schools: (1) are associated with positive student achievement; (2) produce consistent effects in elementary and secondary schools and in schools with different racial composition; (3) encourage students to become more interested in learning; (4) have a strong program identity with clear goals and a rich curriculum; (5) have higher parent participation and support; (6) have a positive school climate; (7) have high levels of communication; (8) have teachers who are confident in schools and in the magnet concept; (9) reduce racial isolation; and (10) have racial composition reflecting district-wide averages. To further advance the magnet concept, several recommendations concerned with providing magnet schools with additional support are offered to State-level decision-makers. The report includes tables and graphs that demonstrate the statistical bases for its evaluation. A list of the schools covered is also included. (PS)

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NEW YORK STATE MAGNET SCHOOL RESEARCH STUDY

FINAL REPORT PREPARED BY MAGI Educational Services, Inc.

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The University of the State of New York
The State Education Department
Division of Civil Rights and Intercultural Relations
Albany, New York 12234

January 1985

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NEW YORK STATE MAGNET SCHOOL RESEARCH STUDY

FINAL REPORT

prepared for

NEW YORK STATE EDUCATION DEPARTMENT
DIVISION OF CIVIL RIGHTS AND INTERCULTURAL RELATIONS
Sterling S. Keyes, Director

by

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Foreword

The Division of Civil Rights and Intercultural Relations of the New York State Education Department presents this New York State Magnet School Research Study to meet the increased need for demonstrating ways to improve public education. The report is in concert with efforts of the Department to implement a massive, statewide comprehensive school improvement process.

It is significant that many of the factors cited in the report as contributing to the effectiveness of magnet schools are tantamount to characteristics highlighted in the effective schools research, among them: academic goals, clearly defined curricula, monitoring of student progress, administrative leadership, parent and community involvement, positive school climate, and collaborative planning.

In particular, we believe that this report will provide education leaders, and others, with information concerning the quality of magnet school programs, as well as the degree and extent of racial balance achieved as a result of magnets.

The inclusion of data gathered in 1973, prior to the establishment of magnets funded by federal sources, will enable the reader to make a number of favorable comparisons. We also request that recipients provide us with appropriate feedback in order to continue the process of follow-up and follow-through. As more magnets demonstrate their effectiveness, we anticipate increased levels of funding and support from our state legislature.

While the major focus of the Division is toward assuring access to programs for students without regard to race, sex, disability or national origin, the Division is equally committed to providing the very best educational opportunities that can be provided for all students in New York State.

For further information, please contact the Division of Civil Rights and Intercultural Relations at (518) 474-3934.

STERLING S. KEYES

Director, Division of Civil Rights
and Intercultural Relations

Preface

In the mid 1970's the magnet school movement emerged as a voluntary response to court-ordered desegregation efforts. Pioneered in large urban districts, magnet schools were designed as specialty schools that would attract students from different racial/ethnic backgrounds and, thereby, promote voluntary integration. In New York State, financial support for magnet schools started during the 1983-84 school year with grants appropriated by the State Legislature. Currently, eight school districts in the State receive these grants and operate approved magnet programs: Buffalo, Mt. Vernon, Newburgh, New Rochelle, New York City, Poughkeepsie, Rochester, and Syracuse. The New York State Education Department's Division of Civil Rights and Intercultural Relations is responsible for grant administration and for assuring financial accountability.

In 1984, the Division contracted with MAGI Educational Services, Inc. of Larchmont, New York to conduct a research study of State-supported magnet programs. The Division was interested in documenting the educational and desegregation impact of magnet schools, as well as analyzing the process by which magnet schools operate. To meet the Division's concerns, the MAGI study examined a number of key research issues organized according to two major queries:

- Do magnet schools provide quality education?
- Do magnet schools promote racial/ethnic balance?

Information pertaining to these questions was gathered through several methods including archival review of material dating back to 1973—three years before magnets were first funded in New York State through federal resources.

The results of this research effort have been organized into four sections of the Final Report. Section I, the Introduction, discusses the evolution of magnet schools, and the purposes of the research study. Section II presents the research Methodology which describes the instruments, procedures, research design, and limitations of the study. The Research Findings are described in Section III, while Section IV provides the study Conclusions.

Acknowledgements

The evaluation of New York State magnet schools was conducted with the strong support and willing cooperation of many individuals. Marjorie Rush, the former director of the Division of Civil Rights and Intercultural Relations, initiated the project as a means of documenting the effectiveness of Magnet Schools. The present director, Sterling Keyes, has continued to provide invaluable support for the study, as have Division staff members Charles Cassidy and Robert Rogers. We wish to acknowledge the assistance and expertise provided by the staff of two New York State Education Department units: the Division of Educational Testing, directed by Winsor A. Lott, and the Information Center on Education, directed by John J. Stiglmeier. Much of the data used in this report were located and routinely retrieved by these units—an extraordinary task considering that the reported information spanned a 12-year time period. Special thanks are in order to the following individuals: Leonard Powell, Chief, Bureau of Educational Data Systems; James J. Brady, Chief, Bureau of Statistical Services; Kenneth Margolius, Ronald Danforth, Patricia Jones, Diane Hutchinson, Peter Carusso, Jim Barnes, Ken Ormiston, and Tom Orsini.

We also are greatly appreciative of the time and cooperation extended by the superintendents, administrators, evaluation/research personnel, teachers, and parents from the 41 magnet schools involved in the study. Without their support and insight, this study would not have been possible. In this regard, special recognition is in order for Joseph T. Murray and Marilyn Rosenblat from the Buffalo City School District for their significant contribution to the investigators' knowledge of successful magnet school development and implementation.

The members of the study team responsible for this report were: Ronald Szczypkowski, Ed.D, Project Director and Principal Investigator; Jo Ann Doino, Study Coordinator; Marilyn Musumeci, Ph.D., Research Consultant and principal report writer; Elizabeth Keefe and Margaret Moore, Research Assistants; and Kathryn Ruddy, Word Processing and Graphics.

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Summary of Findings

Magnet schools were created as a voluntary alternative to forced busing in order to decrease racial isolation, especially in urban settings. The basic strategy for achieving this goal was to offer special curricula that would attract students from different racial/ethnic backgrounds and, therefore, promote voluntary integration. In 1984, MAGI Educational Services, Inc. of Larchmont, New York was awarded a contract by the New York State Education Department, Division of Civil Rights and Intercultural Relations to conduct a research study documenting the impact of magnet schools. The study was directed toward answering two main research questions:

- Do magnet schools provide quality education?
- Do magnet schools promote racial/ethnic balance?

A summary of findings pertaining to these queries are presented below.

Do Magnet Schools Provide Quality Education?

- Magnet schools are associated with positive student achievement.

  -PEP Test results revealed statistically significant increases in student performance, after the introduction of magnet schools. These increases were not found to be due to corresponding changes in racial composition or selective enrollment patterns used by magnet schools.

  -The majority of magnet schools had higher achievement test scores than their district average. Fifty-eight percent (58%) of the schools performed better in reading, while 65% performed better in math. Furthermore, nearly one-quarter of the magnets surpassed their district averages by more than 10 NCE points, a statistically significant and educationally important difference.

- Magnet schools produce consistent effects in elementary and secondary school settings, and in settings with different racial composition.

  -The percentage of K-8 magnet schools scoring above and below their district average in reading and mathematics was statistically equivalent to the percentage of secondary schools scoring above and below the district average in these two basic skill areas.

  -Similarly, the achievement standing in schools with high minority enrollment was statistically equivalent to the standings in schools with low minority enrollment.

° Magnet schools encourage students to become more interested in learning.

-Ninety-eight percent (98%) of the magnet schools had higher attendance rates than their district averages.

-Nearly three-quarters had dropout rates below the district average.

° Magnet schools have a strong program identity, with clear goals and a rich curriculum that offers choice and diversity to parents and students.

° Parent participation and support in most magnet schools are exceptionally high.

-In nearly half of the magnet schools, 50% or more of the parents regularly participate in school activities. And in 30%, three-quarters or more of the parents are active participants.

-Ninety-eight percent (98%) of the parents reported that they were either satisfied or very satisfied with magnet programs.

-Ninety-eight percent (98%) said that they would recommend their magnet school to other parents.

-The majority of parents felt that magnet schools provide better education than other schools.

° Magnet schools have a positive school climate with strong leadership, cohesiveness, teacher-directed learning, and sound working relationships.

° Magnet schools are characterized by high levels of communication.

° Magnets have teachers who are confident in schools and the magnet concept.

-Teacher turnover rate in magnet schools is very low.

-Eighty percent (80%) of the teachers rated their magnet schools as superior to non-magnet programs. Over 90% felt that magnet schools have successfully met the needs of students for whom they were intended.

Do Magnet Schools Promote Racial/Ethnic Balance?

° Magnet programs reduce racial isolation in the schools.

-High minority schools with an average minority enrollment of 90% in 1973 substantially reduced their enrollment, over a 10-year period, to 54%.

-Low minority schools with an average minority enrollment of 28% in 1973 increased this enrollment by 26%.

° The current racial composition in magnet schools reflects the district-wide average, even though there were very large discrepancies prior to magnet school development.

INTRODUCTION

School 59 in the Buffalo Public School System is officially called the Science Academy. But for students in grades 7-8, School 59 is known as the Zoo School, for it is housed on the site of the Buffalo Zoological Gardens and uses the unique resources of this Zoo to provide students with a comprehensive course of study. Classroom walls disappear at the Zoo School as students make extensive use of the Zoo exhibits, research library, and Zoo staff to engage in the many steps of scientific discovery, while continuing to learn traditional academic subject matter.

School 59 is clearly special, but perhaps no more so than the other 40 urban schools in New York State funded as magnet programs. These State-supported magnets were designed to be special so that students of different racial backgrounds would voluntarily enroll in them even if it meant riding a bus.

Evolution of Magnet Schools

National Overview

In the mid-1970's a number of large urban school districts embarked on a school improvement venture that would have unparalleled consequences. Seeking an educational remedy to court-ordered desegregation mandates, these districts initiated magnet schools as an alternative to forced busing. The magnets were designed as specialty schools that would attract a cross section of students from all racial groups and, thereby, promote voluntary integration. At the same time, magnet schools were to provide high quality education by offering new programs, increasing student achievement, improving staff morale, and increasing parent involvement in school activities.

The federal government assumed a major leadership role in promoting magnet schools through the 1976 amendment to the Emergency School Assistance Act (ESAA) which authorized grants to support the implementation of magnet schools in desegregating districts. As part of the overall ESAA mission, magnet schools were suggested as vehicles that could deter "middle class flight" by providing special curricula capable of attracting substantial numbers of students from different racial backgrounds. Special curricula was defined as a course of study embracing subject matter or teaching methodology that were not generally offered to students in the school district.[1]

So novel and appealing was the magnet concept that by the early 1980's there were over 1,000 magnet schools in 138 urban school communities in the United States. The number has continued to grow despite the elimination of

---

1 Federal Register, Volume 45, No. 97, 5/16/80.

direct federal support for magnet schools and cutbacks in other desegregation programs. In 1982-83, for example, 74 school districts developed magnet school programs without federal support.

Are magnet schools effective models for achieving educational quality and desegregation? A recently completed national study conducted by Abt Associates and James H. Lowry Associates, provided an affirmative response to that query (Blank et al., 1983).[2] The study findings included the following:

- 80% of magnet schools have higher achievement test scores than their district average
- High quality magnets serve average, as well as high ability students
- Magnet schools offer important educational options within their districts
- Magnet schools provide quality in a district through offering a method of innovation in theme and organization of education
- Magnet schools have a significant positive impact on district-wide desegregation
- Magnet schools help reduce real and potential community conflict concerning desegregation
- Magnet schools encourage active community involvement
- Magnet schools help school districts improve their image within the community.

In addition to the national study, over 70 reports have been identified in the literature describing the effects of magnet schools. Most of these reports summarized studies undertaken in large urban school districts including Chicago, Milwaukee, Cincinnati, Cleveland, Houston, Dallas, Ft. Worth, Philadelphia, Atlanta, St. Louis, and Seattle. For the most part, the reports were positive: magnet schools were shown to improve racial balance in schools, as well as to enhance student performance.

As the above findings suggest, the impact of magnet schools is far-reaching. According to the national study, moreover, magnet schools can play a significant role in improving the overall quality of public education by effectively responding to several important educational issues of the 1980's:

- Identifying models of educational excellence
- Improving the quality of core academic subjects

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2 Blank, Rolf K. et al. (1983). Survey of magnet schools. Analyzing a model for quality integrated education. (Final Report to the U.S. Department of Education). Washington, D.C.: James H. Lowry and Associates.

- Advancing equal educational opportunity
- Offering choice and diversity in education
- Regaining the public's confidence in their schools

Magnets as Models of Excellence - Magnet schools offer districts a method of developing educationally excellent programs based on the structure of a theme-based curriculum that voluntarily attracts students. When programs are educationally excellent and exciting, students are willing to perform "on the boundary of individual ability in ways that test and push back personal limits."[3]

Improving Core Academic Subjects - Magnet schools show strong potential for upgrading and revitalizing academic education at the secondary level. Magnets expand course offerings in academic areas and, thus, enable students to major in a variety of fields. The unique nature of the curricular activities provides students with incentives for taking basic and advanced courses in core subjects, rather than allocating time towards electives and non-academic subjects.

Equal Educational Opportunity - The essence of magnet education is to create distinctive educational programs that voluntarily encourage racial desegregation. Parents and students do not object to being bused to school if there is something educationally exciting at the end of the bus ride.

Educational Choice - Magnet schools are appealing because they offer a wide range of educational opportunities within the district. Parents can choose to enroll their children in an open school, traditional or basic skills program, science program, foreign language program, computer program, or vocational program. The choices are many, yet there is a common strand within magnets—a strong academic emphasis.

Renewing Confidence in Public Schools - The educational improvements in magnet schools are not strikingly new or innovative. What is new, however, is the way that programs are planned. In magnet schools, community members are actively involved in instructional planning and design. This involvement has created a sense of commitment, ownership and pride in the school and a genuine feeling that magnet schools make a difference.

Although there is no single approach to providing quality integrated education in the public schools, the evidence suggests that magnet schools can and do play a significant role in the solution.

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[3] National Commission on Excellence in Education, (1983). A nation at risk: The imperative for educational reform. Washington, D.C.: U.S. Department of Education.

Magnet Schools in New York State

Magnet schools were first funded in New York State during the 1976-77 school year through federal resources. State financial support for magnets began in 1983-84 when the State Legislature appropriated $7 million in grant awards to eight school districts. The basic requirements for funding were as follows:

1. Programs must provide a special curriculum not generally offered in the district.

2. Programs must reduce or eliminate racial isolation in any magnet school which substantially deviates from the district-wide enrollment of students.

In 1984-85, the legislature nearly doubled the total amount of the grant awards to $13.45 million, and eight school districts were approved for funding: Buffalo, Mt. Vernon, Newburgh, New Rochelle, New York City, Poughkeepsie, Rochester, and Syracuse (see Figure 1).[4] The eight districts operate 41 magnet schools that span a broad range of grade levels and curricular areas, including communication arts, computer science, creative arts, foreign languages, fundamental math and science, government and law, pre-medical training, and oceanography. The Buffalo Public School System, alone, operates almost half of the State-supported magnet programs, with 18 schools that enroll 12,000 students.

In their nine-year history, magnet schools have gained increasing visibility throughout the State. Many prominent educators claim that magnet schools are key to the school effectiveness/desegregation plan in the State. Buffalo's magnet schools, in fact, have been hailed as national models for integration.[5]

Focus of the Research Study

Although magnet schools have enjoyed strong support since they first were introduced in New York State, they have operated without an objective analysis of program activities. As a result, little empirical evidence is available to support claims that magnet programs are successful. Recognizing this fact, the New York State Education Department (NYSED), Division of Civil Rights and Intercultural Relations, saw the need to conduct a research study that would document the effectiveness of magnet school programs in the eight urban districts. In 1984, MAGI Educational Services, Inc. of Larchmont, New York was awarded a contract by NYSED to conduct this research effort. The purpose of the research was twofold:

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4 Although state funds were also appropriated for the Yonkers City School system, federal litigation preempted this district's involvement in the research study.

5 Winerip, M. (1985). School integration in Buffalo is hailed as a model for U.S. New York Times.

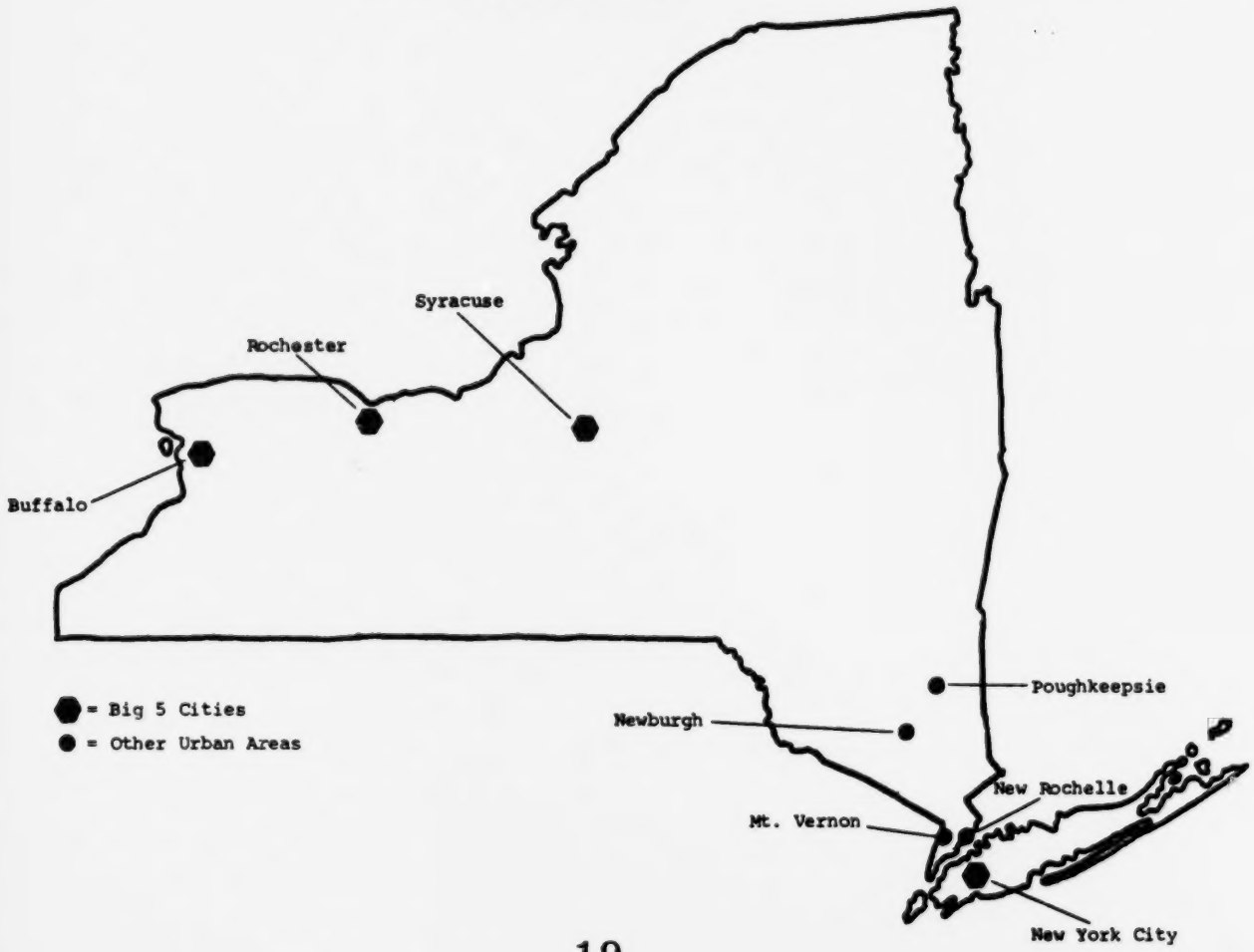
1. To determine the educational and desegregation impact of State-supported magnet schools; and

2. To encourage continued support for the maintenance and expansion of successful magnet schools in New York State.

The sections of this report that follow present the research methodology used in meeting the study intents, the major findings of the study, and the study conclusions.

Figure 1

Magnet School Research Study
Participating School Districts



RESEARCH METHODOLOGY

Research Issues

To meet NYSED's broad research purposes, the MAGI study examined a number of key research issues organized according to two major queries:

- Do magnet schools provide quality education?
- Do magnet schools promote racial/ethnic balance?

The issues corresponded to the goals and sub-goals of the original Request for Proposal, as well as reflected MAGI's understanding and analysis of current educational concerns. Chart 1 identifies these research issues.

Research Procedures

A. Sampling

As noted in the Introduction of this report, there were eight (N=8) school districts in New York that received magnet school grant awards in 1984-85. The 41 magnet school programs operated by these districts, constituted the sample for the research study. Relevant characteristics of each magnet school are found in Table 1. Additional information related to the sample is provided in the discussion of data collection methods.

B. Data Collection Methods

Several complementary data collection methods were used to systematically examine the research issues. The intent was to gather similar information from diverse sources in order to verify, modify, or expand upon initial findings. The specific methods are described below:

Archival Review of School Records - The archival review of school records provided current and historical data on student performance and desegregation variables. The information, which was obtained from NYSED, included the following:

a) NYSED Pupil Evaluation Program (PEP) Tests in Reading and Math
b) School Racial/Ethnic Composition
c) Student Attendance and Dropout Rate

Both district and school-level data were retrieved. In many cases, these data spanned a 12-year period (from 1973 to 1985), making it possible to establish several premagnet and postmagnet data points for most schools in the sample.

Chart 1

Research Issues Examined in Magnet School Study

Do Magnet Schools Provide Quality Education?

° Student Performance

A. Academic Achievement

-What changes have occurred in student achievement over time?

-Do students in magnet schools perform comparably to those in other schools within the district?

-Do magnet schools work equally well for elementary and secondary students, and for students of different racial backgrounds?

B. Attendance

-Do students in magnet schools have a similar attendance rate to those in other schools within the district?

C. Dropout Rate

-Do students in magnet schools have a similar dropout rate to those in other schools within the district?

° Program Design

-Do magnet schools offer distinctive educational opportunities?

° Parent Participation

-Are parents involved in magnet school activities?

-Are parents satisfied with magnet schools?

° Learning Environment

-Do magnet schools have a positive school climate?

-Are teachers and administrators committed to magnet schools?

Do Magnet Schools Promote Racial/Ethnic Balance?

° Desegregation

-What changes have occurred in student racial compostion over time?

-Does racial composition in magnet schools reflect the district-wide composition?

Table 1

CHARACTERISTICS OF THE SAMPLE OF MAGNET SCHOOLS

District Magnet School	Year Magnet Introduced	Theme	Grade Level
Buffalo			
Waterfront Elementary School	76-77	Open Education	Pre K-8
Academic Challenge Center	77-78	Diagnostic/Prescriptive	Pre K-8
Bennett Park Montessori Center	77-78	Montessori Approach	Pre K-8
Bilingual School #33	77-78	Language and Cultural Heritage	Pre K-8
Buffalo Academy for Visual and Performing Arts	77-78	Arts and Music	5-12
Buffalo Traditional School	77-78	Basics Education	5-12
Build Academy	77-78	Community-Based	Pre K-8
Campus School East	77-78	Basics Education	Pre K-8
Campus School West	77-78	Open Education	Pre K-8
City Honors	77-78	Advanced Instruction	5-12
Follow Through School	77-78	Follow Through Model	Pre K-8
Native American School	77-78	Cultural Heritage	K-8
Campus School North	80-81	Basics Education	K-8
Futures Academy	80-81	Basic Skills & Career Ed	Pre K-8
Dr. Martin Luther King, Jr. Multi-Cultural Institute	80-81	Multi-Cultural Heritage and Language	Pre K-8
Frederick Law Olmstead School	80-81	Gifted and Talented	K-8

Table 1 (continued)

District Magnet School	Year Magnet Introduced	Theme	Grade Level
School #59 Science Academy	80-81	Science	Pre K-8
Herman Badillo Community School	83-84	Language	Pre K-8
Mt. Vernon			
Pennington-Grimes Center for Creative Education	76-77	Humanities	1-6
New Rochelle			
Daniel Webster Magnet School	82-83	Humanities	K-6
Newburgh			
Gardnertown Elementary	79-80	Basic Education	K-6
Horizons-On-The- Hudson	80-81	Gifted and Talented	K-6
New York City*			
Beach Channel High School	82-83	Oceanography	9-12
Hillcrest High School	82-83	Pre-Medical	9-12
Jamaica High School	82-83	College Discovery	9-12
E. R. Murrow High School	82-83	Communication Arts	9-12
Poughkeepsie			
Samuel F. B. Morse Elementary School	80-81	Early Childhood	Pre K-3

*All four New York City high schools designated as magnet schools for State funding were established as special schools in the mid 1970's—none received extra funds as State-funded magnets according to the schools' principals.

Table 1 (continued)

District Magnet School	Year Magnet Introduced	Theme	Grade Level
Rochester			
School of the Arts at Monroe	80-81	Visual Arts	7-11
Joseph C. Wilson Magnet High School	80-81	Liberal Arts and Foreign Language	9-11
Joseph C. Wilson Magnet High School	80-81	Science and Computer Technology	9-11
Nathaniel Rochester Community School	82-83	Liberal Arts	K-5
Nathaniel Rochester School	82-83	Science and Computer Technology	6-8
School of Business at Franklin	82-83	Business Education	9-11
School of Environmental and Biological Science at Charlotte	82-83	Environmental and Biological Sciences	7-11
School of Law and Government at Jefferson	82-83	Law and Government Processes	9-11
Syracuse			
Danforth Magnet School	77-78	Basic Skills	K-6
Franklin-King Elementary Tandem School	77-78	Alternative Program	K-6
King Tandem School	77-78	Early Childhood	K-4
McKinley-Brighton Fundamental Math/ Science Magnet School	78-79	Math and Science	K-6
T. Aaron Levy Middle School	79-80	Accelerated Program	7-8
F. Ware Clary Middle School	82-83	Math and Science	6-8

District-Administered Standardized Tests - As another means of assessing student performance, district-administered standardized reading and math test results were obtained for all magnet schools and districts. Complete data were available for 38 schools, 20 of which used a comparable metric in reporting results (e.g., percentiles or NCEs). Of the 20, only nine schools had at least one premagnet and two postmagnet measures available.

Parent Questionnaire - The Parent Questionnaire assessed overall parent reactions to the magnet schools. In particular, parents were asked to rate their level of understanding and satisfaction with magnet schools, describe the extent of their involvement in magnet activities, and rate the impact of magnet schools on their child's performance. Parents also were asked if they would recommend magnet schools to other parents, and if they thought magnets helped to promote district-wide desegregation. The questionnaires were distributed to a random sample of 50 parents from each magnet school. A total of 647 (32%) were returned.

Teacher Questionnaire - The Teacher Questionnaire gathered background information about teachers, and the general characteristics of magnet school activities, including inservice training, communication, leadership ability of school principals, and the learning climate in magnet schools. Additionally, the questionnaire asked teachers to rate their level of satisfaction with magnet programs, and the overall impact of magnets on students. Teacher Questionnaires were given to all magnet school teachers; 418 (73%) were returned.

Principal Questionnaire - Magnet school principals, like teachers, also were asked about the level of communication and the learning climate within their schools. In addition, they were asked about the goals of magnet education and parent involvement in magnet schools. Finally, principals were asked to rate their level of satisfaction with magnet programs. Thirty-eight principals (93%) completed the questionnaire.

D. Research Design

The research study made use of several quasi-experimental designs to provide estimates of magnet school effects. These included Interrupted Time Series Design, Comparison Group Time Series Design, and Case Study Methodology. Where possible, the literature also was cited as a comparison base by which to judge degree of impact.

The combination of research designs offered a great measure of scientific rigor; nevertheless, each was subject to an array of confounding factors that tended to limit the degree to which inferences could be made. The most significant contaminating factors related to: a) history, or events occurring over time in addition to the magnet school (e.g., other district-wide desegregation plans); and, b) selection, or differences in the student population over time (e.g., achievement, racial/ethnic status). While efforts were made to adjust for certain of these factors, this control did not always rule out their possible impact on observed changes in student performance or racial/ethnic composition. Consequently, it cannot be said, conclusively, that outcomes, especially those involving student performance, were attributable to magnet

schools. However, description of the changes associated with magnet school development, and illustration of the current educational and desegregation status of magnet schools, provide a convincing context by which to judge magnet school success. And this, perhaps, is more meaningful than a demonstration of causality, for it enables a direct response to the major policy questions that motivated this research study. The research designs are described in the following paragraphs.

Time Series Design - The interrupted time series design involves the collection of multiple measurements at several points prior to the introduction of a program, and at several points following its introduction. Through the series of measures taken over time, stable estimates of "pre" and "post" treatment growth trends are possible. If the pre-growth to post-growth patterns significantly change, the program is assumed to have had an effect. In the magnet school research study, the time series design was used to assess changes in the following outcome areas: PEP Test performance, standardized achievement results, attendance, dropout rate, and student racial/ethnic composition. Where available, data were examined over a 12-year period, 1973-1985, for many of these outcome areas.

Comparison Group Time Series Design - In a "mini impact study" of PEP Test results, the interrupted time series design was supplemented with the addition of comparison schools and district-wide data. This allowed the simultaneous tracking of three groups over time—magnet schools, magnet districts, and comparison schools. All magnet schools that were started in 1977 and their matched controls,[1] were included in this design. There were nine such magnets and 20 comparison schools with available data (see Appendix A).

"Case Study" Methodology - In the case study approach, the current status of magnet schools was compared to district-wide school status on a number of outcome variables. The variables included: PEP Test performance, standardized achievement test results, attendance, dropout rate, and racial/ethnic composition.

In addition to the time series and case study designs, other outcomes were assessed through a single group posttest-only design. This design was used mainly for the measurement of subjective, extant data, such as parent, teacher, and principal survey results.

D. Analysis

Preliminary analyses were performed on all variables of interest to derive basic descriptive statistics. These statistics included: frequency counts, means, medians, and standard deviations. Beyond the descriptive statistics, a variety of parametric and non-parametric procedures were used to examine relationships among variables. For example, Analysis of Covariance (% black = covariate) was used to test the statistical significance of changes in PEP Test

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[1] Control schools were matched to magnet school buildings on the basis of educationally relevant factors. The matching process was described in the Research Study Progress Report, March, 1985.

scores and standardized achievement test results over time. The Chi-Square technique was used to determine if a greater number of magnet schools scored above the district average than below it on a number of outcome measures, and whether magnet schools worked equally well for all types of students; the unit of analysis, in all cases, was the magnet school. While there were 41 schools in the sample, the number involved in any given analysis differed depending upon data availability.

Table 2 provides a summary of the magnet school methodological plan.

Limitations

Limitations are inherent in any form of research. They are particularly evident in field-based research where random assignment and other adequate control techniques are not always possible or appropriate. Four types of limitations influenced the magnet school study. First, as already noted, the internal validity threats of history and student selection were not fully controlled by the research designs. Although history threats could be accounted for in other ways (e.g., record review showing that no other events were operating that could reasonably account for findings), the same could be done with student selection given the cross-sectional nature of the data. To elaborate, the retrospective time series design, necessarily, examined the performance of <u>different</u> students over time. Since the student population changed after the introduction of magnet schools, there is no clear way of knowing how this change affected subsequent student performance. In other words, any postmagnet differences in performance could have been due to the differences in the student population (e.g., initial achievement differences, racial/ethnic composition, etc.) rather than the magnet school educational program. To minimize the effect of student selection on the findings, statistical controls were applied to the data. Specifically, racial composition was held constant when studying student PEP Test or standardized test performance.

A second limitation relates to the quantitative nature of the data. The presentation of findings primarily focuses on quantitative evidence derived from record review and questionnaires. While it is generally preferable to do more qualitative fieldwork when conducting a study of this scope, onsite visits that intensively examine school processes tend to be more costly and time consuming. It will remain for future studies of magnet schools to supplement the quantitative approaches with case study material obtained from onsite interviews and observation.

The third limitation that qualifies the results of this research effort is intrinsic to retrospective research methodology. The MAGI study attempted to retrieve information dating back some 12 years. Although this attempt generally was successful, complete data were not always available for the 41 schools in the sample. As a result, not every magnet school was represented in all analyses. Fortunately, it was not always the same school that was missing; thus, some type of relevant information was obtained on all schools in the sample.

TABLE 2

SUMMARY CHART OF MAGNET SCHOOL METHODOLOGICAL PLAN

Research Issue	PEP Tests	Achievement Tests	Attendance Records	Dropout Records	Racial Composition Records	Parent Questionnaire	Staff Questionnaire	Research/Design Sample
Academic Achievement	X	X						PEP Tests *Time series with 9 magnets and matched controls *Case method with 26 magnets Achievement Tests *Time series with 9 magnets *Case method with 38 magnets
Attendance			X					*Case method with 35 magnets
Dropout Rate				X				*Case method with 11 secondary magnets
Program Design							X	*Postest-only with 41 magnets
Parent Participation						X	X	*Posttest-only using data from 38 principals and 647 parents
Learning Environment							X	*Posttest-only with data from 38 principals and 418 teachers
Desegregation					X	X	X	Race Records *Time series with 39 magnets Questionnaires *Posttest only

The final limitation involves the use of self-report for describing magnet school processes, such as parent involvement, communication, school climate, and commitment. Questionnaires are always subject to systematic biases and to random distortions on the part of the respondent. To reduce the impact of these errors, the research utilized multiple measurements so that the consistency of answers could be checked across different respondents. In addition, answers from the same respondent were carefully checked for inconsistencies. Where discrepancies were too great, the data were eliminated from the analyses.

Despite the limitations to this research effort, we believe that the results provide an accurate description of the educational and desegregation impact of magnet schools. Future research efforts can serve to verify the findings and conclusions, as well as add to the existing database.

Do Magnet Schools Provide Quality Education?

In the aftermath of the hopeful 1960's, the news from the educational research community was bleak. Study after study appeared to show that "schools make no difference." Since that time, the more recent research has produced a different set of conclusions. Partly due to the spirited debates over the failures of the American educational system, these studies began to concentrate on the processes of schooling, and observed the following: schools can and do make a difference in how much and how well children learn, but some schools do better than others in reaching this goal because they provide higher standards of educational quality.

As we have seen, magnet schools were designed to enhance the quality of education in urban districts. One aspect of this research effort, therefore, was to document the extent to which this goal had been achieved. To do so, educational quality was operationally defined according to a number of key school-level characteristics that the literature has associated with effective schools in general,[1] and with effective magnet schools, in particular.[2] These characteristics were:

1. Consistent levels of high student performance, including basic skills achievement and interest in learning.

2. A strong program design with a coherent theme, clear philosophy, consistent expectations, and a rich curriculum that offers educational choice and diversity for parents and students.

3. Active parent participation in program planning, design, instruction, and support.

4. An environment that is conducive to learning—one that has a positive school climate with strong leadership, ongoing communication among staff, students, parents, and administrators, and committed teachers and administrators.

Essential magnet school processes and outcomes, then, were examined to determine if the effectiveness characteristics were evident in magnet programs. The findings from this examination are presented in the following sections of the report. The presentation is organized according to four headings: 1) student performance, including academic achievement, attendance, and dropout rate; 2) program design; 3) parent participation; and, 4) learning environment.

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1 Bickel, W. E. (1983). Effective schools: Knowledge, dissemination, inquiry. Educational Researcher. 12, 3-31.

2 Blank et al., op. cit.; see Appendix C.

Student Performance

Academic Achievement

"Four years after a federal judge ordered forced busing, the Buffalo Public Schools have come to be considered a national model of integration...Today everyone from the black leaders who filed the federal suit to white parents who swore their children would never ride a bus, agrees that results are impressive. Test scores are up. While in 1976, the average Buffalo third grader scored at the 45th percentile in mathematics...the average score five years later was at the 69th percentile." (Winerip, op.cit.)

Administrators, planners, and funders of innovative school programs often ask: "How is our program affecting student academic performance?" This fundamental concern was addressed in the current research study, by probing three questions about student achievement in magnet schools:

- What changes have occurred in student achievement over time?
- Do students in magnet schools perform at a level comparable with students in other schools within the district?
- Do magnet schools work equally well for all types of students?

Each of these questions is addressed below.

Changes in Achievement Over Time

1. PEP Tests

PEP Test results over a 10-year time interval were examined for nine[3] magnet schools, their matched control schools, and their respective magnet school districts. The aggregated findings for the nine magnets appear in Figure 2. As this figure illustrates, there were substantial changes in student academic performance after the introduction of magnet programs in 1977. Prior to that time, a significant proportion of students were scoring below the State Reference Point on the PEP's. With the advent of magnet programs, however, the percentage of students above the reference point increased dramatically. Statistical analysis of the pre-post performance trends indicated that the observed changes were statistically significant in all four areas examined—3rd and 6th grade reading and math. Moreover, the changes were substantial for all schools in the sample. For example, in third grade

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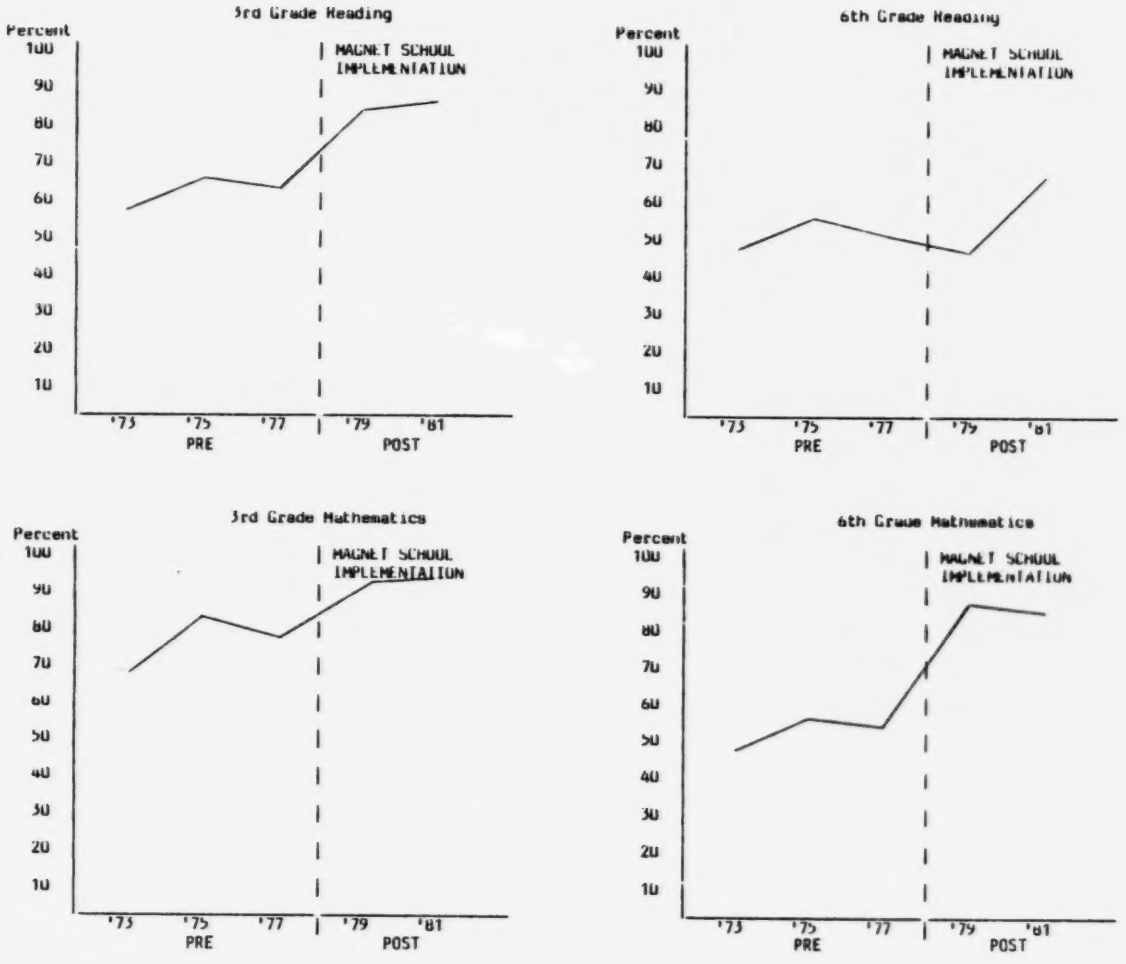
[3] Appendix A lists these schools; six were from Buffalo, and three from Syracuse. These schools were selected for the analysis because they were the only schools in the sample that had a consistent start date (1977) coupled with a sufficient number of pretest and posttest PEP results available over the 10-year time interval.

Figure 2

Student Performance on NYSED PEP Tests in Magnet Schools:
Percent Above State Reference Point, Fall 1973 to Fall 1981



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reading, 75% of the schools gained 15 percentage points or more between 1977 and 1979, the immediate pre-post magnet years; prior to 1977, the yearly PEP Test gains averaged only four percentage points in these schools.

The magnet school PEP test gains were even more significant when compared with magnet school district averages and comparison school data. Figure 3 indicates that the greatest divergence in academic performance trends among the three groups occurred after the implementation of magnet programs in 1977. At that time, magnet schools showed very large gains in the percentage of students scoring above the State Reference Point, whereas comparison schools and magnet districts continued to follow the pre-intervention performance pattern. Furthermore, by 1981, magnet schools surpassed both districts and comparison schools in the percentage of students scoring above the State Reference Point on the PEP Tests.

While some may argue that the increases in student PEP Test performance were due to corresponding changes in racial composition, our statistical analyses did not support this contention. Specifically, PEP Test increases were statistically significant even when the effects of race were statistically controlled. Figure 4 graphically illustrates this finding for the high minority schools (i.e., schools that were 85-100% black in the pre-magnet year). According to this chart, the greatest change in racial composition occurred between 1975 and 1977, when the minority enrollment declined by 22 percentage points. During the same time period, the 3rd grade PEP reading scores did not change dramatically. However, in the following year, PEP scores increased by 24 percentage points. Although the racial composition also changed between 1977 and 1979, this change was not as great as that observed in the previous years. It is of interest to note that impressive gains in PEP scores were also observed in low minority schools, or schools that increased their minority enrollment by 30% during the study period.

PEP performance increases also did not appear to be due to differences in student ability caused by highly selective enrollment practices. In general, New York State magnet schools select students regardless of their ability.[4] The schools are marketed as non-selective, open facilities that encourage all parents and students who are interested in the theme. The description of Rochester's magnet schools contained in their awareness brochure is one example of the non-selective message given to parents and students:

> Magnets are open to all city students and take some students from suburban communities as well. Magnet schools do not take only high achievers. Programs are open to all students and accept children with a wide variety of grades, skills, and talent.

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[4] This statement is based on document review only; it was not verified through statistical analysis since the researchers did not have access to student ability data.

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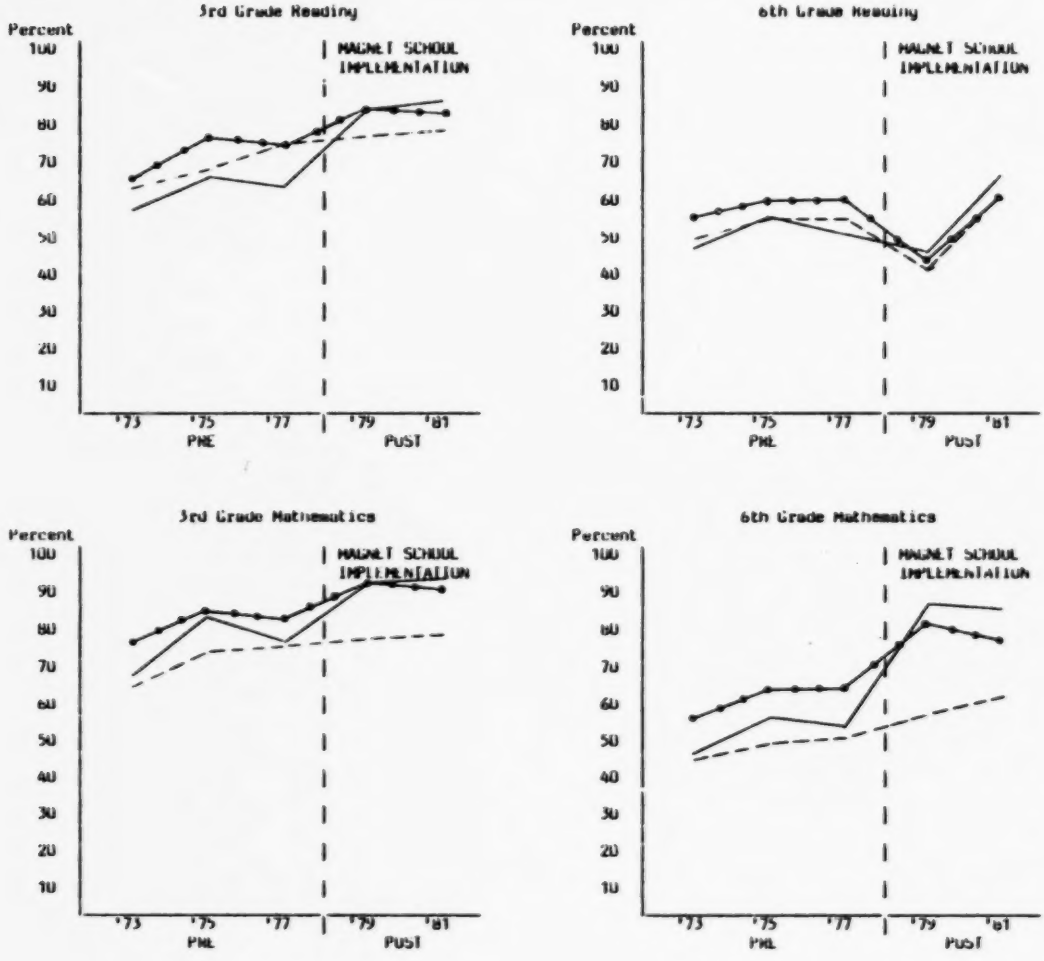
Figure 3

Student Performance on NYSED PEP Tests in Magnet Schools, Matched Comparisons, and Magnet Districts: Percent above State Reference Point Fall 1973 to Fall 1981*



Key:

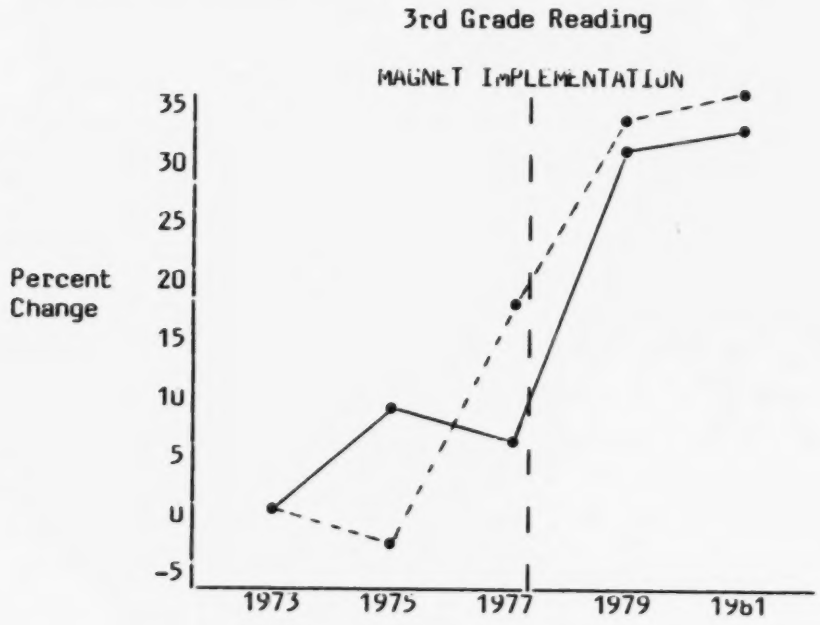
——— Magnet Schools
----- Control Schools
—•—•— Magnet Districts

*1981 was used as the posttest year since comparison school data were gathered from 1973-81 only.

Thus, the PEP Test results for the nine magnet schools in the sample (38% of schools serving grade 3 and 6) revealed significant pretest-posttest increases in student performance. These increases were not found to be due to corresponding changes in racial composition. Nor did they appear to be due to selective enrollment practices used by magnet schools.

Figure 4

Changes in Student PEP Score and Minority Enrollment in High Minority Schools* - Fall 1973 to Fall 1981



—— PEP Test
----- Minority Enrollment

*These schools averaged 91% black in 1973.

2. Standardized Achievement Tests

A complete time series analysis could not be performed with standardized test data due to incomplete data. However, the available data permitted the examination of three years of reading performance for nine magnet schools.[5] The majority of these schools began during the 1982-83 school year; test results from one pretest and two posttest points were analyzed using normalized standard scores (NCEs) as the common metric. The findings revealed

[5] Appendix B lists these schools; two were from Newburgh, one from New Rochelle, four from New York City, one from Poughkeepsie, and one from Syracuse. Only reading scores were examined due to missing math data.

overall pretest-posttest achievement increases for the nine schools taken together, as well as for individual schools. These increases, however, were not statistically significant.

In summary, the PEP and standardized test score analyses from 18 different schools demonstrated substantial increases in student academic performance over time. The increases were most apparent in the PEP Test analysis, where statistically significant gains occurred after the introduction of magnet programs. While it cannot be stated conclusively that these performance gains were caused by magnet programs, the evidence suggests that magnet programs were a strong contributing factor. Moreover, educational effectiveness in magnet schools seems to have had a correspondingly positive effect on magnet districts. That is, after the introduction of magnet schools, impressive gains were observed both school-wide and district-wide.

Comparability of Achievement

To determine if magnet school students were performing comparably to other students within the magnet district, the most recent PEP Test and achievement test data were examined for all magnets combined, and for their respective school districts.[6] Figure 5 provides the PEP Test comparisons, and shows that magnet school students generally performed as well as the district-wide students on all PEP Tests. In two instances—sixth grade reading and mathematics—a slightly higher percentage of magnet students scored above the State Reference Point, while the reverse was true in third grade reading and mathematics, where more district students scored above the reference point.

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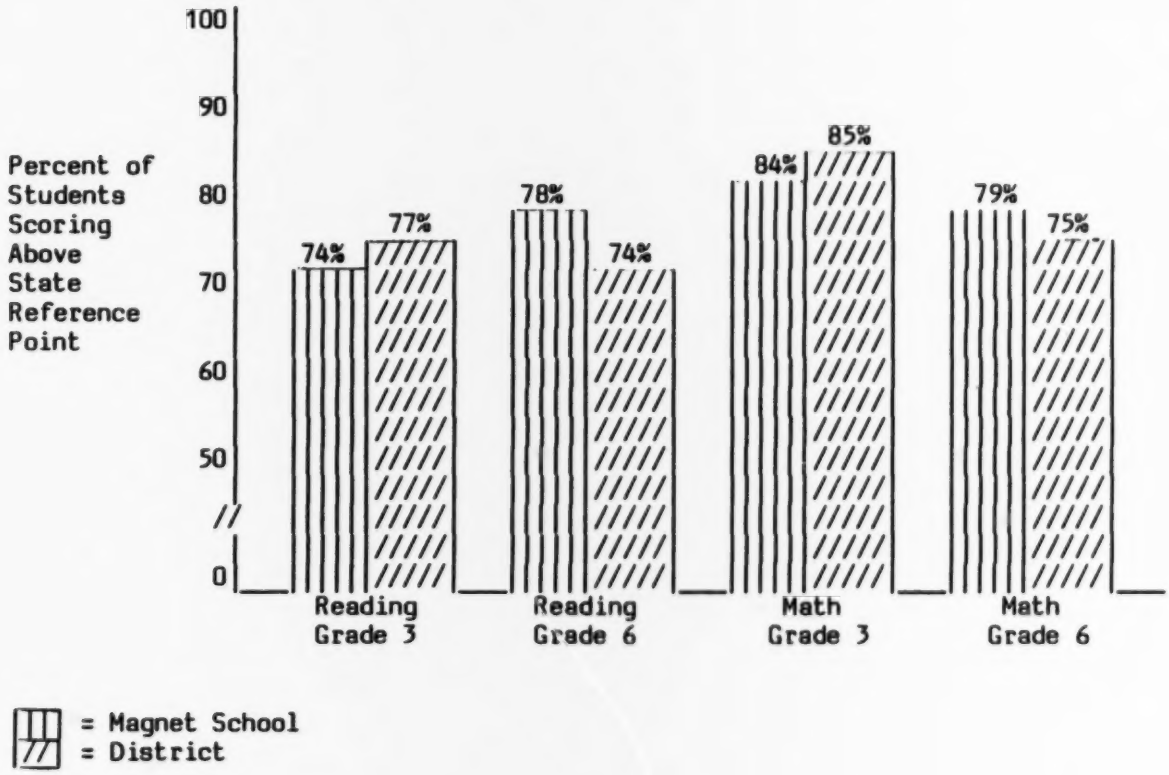
6 PEP Test data were examined for all magnet schools that serve 3rd and 6th grade students (N=24). Reading achievement test data were examined for 38 of the 41 schools, while mathematics achievement data were examined for 34 of the schools.

Figure 5

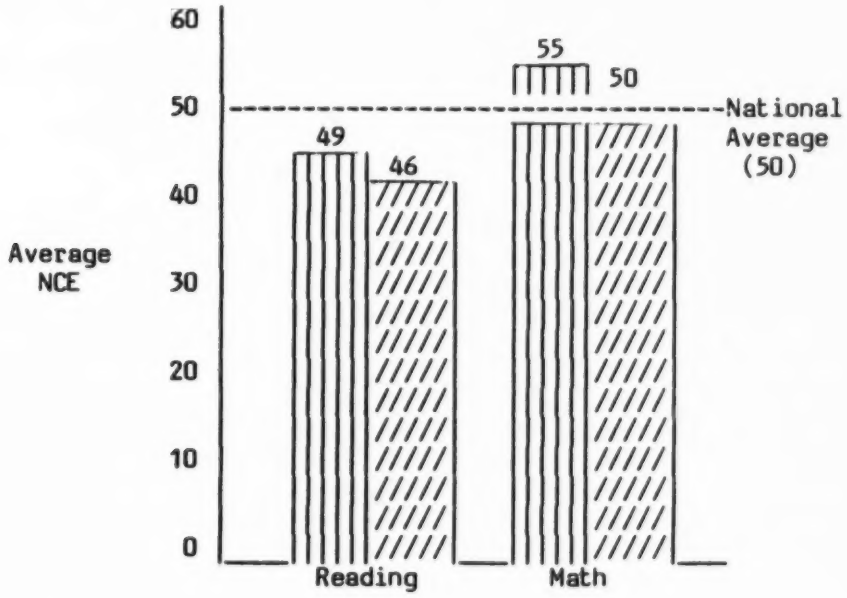
Student Performance on New York State PEP Tests in Magnet Schools and Magnet Districts - 1984-85 School Year



The standardized achievement test results supported the trend observed in the PEP findings. As Figure 6 illustrates, reading and mathematics scores were comparable for magnet schools and districts. In both cases, however, the magnet school NCE average exceeded the district mean. Moreover, the mathematics average surpassed the national norm—a remarkable finding considering that magnets are inner city schools which traditionally show lower levels of student achievement.

Figure 6

Student Performance on Standardized Achievement Tests
1983-84 School Year



[||||] = Magnet
[////] = District

The academic achievement test scores of individual schools were also compared with their respective district averages. The results of the comparison indicated that, in most cases, the majority of magnet schools scored above their districts both on the PEP Tests and on standardized achievement tests (see Table 3). Achievement test data for specific schools are displayed in Figures 7 and 8. From these charts it can be seen that several magnets—nearly one-quarter—surpassed their districts by more than 10 NCE points, a statistically significant and educationally important difference. On the other hand, only one magnet scored less than 10 points below the district in reading, and no magnet scored less than 10 points below the district in mathematics. These findings, therefore, suggest that students do well in magnet schools. Nevertheless, some magnet schools are better than others in facilitating student achievement in the basic skills of reading and mathematics. Since this research did not intensively examine magnet school processes, it is difficult to speculate on the cause for these inter-school differences. It remains for future research to conduct a thorough process examination of magnet schools in order to clarify achievement differences between programs.

TABLE 3

PERCENT OF MAGNET SCHOOLS SCORING ABOVE DISTRICTS ON PEP TESTS AND STANDARDIZED ACHIEVEMENT TESTS - 1983-84 AND 1985-86 SCHOOL YEARS

Test	Percent Scoring Above District
PEP Tests	
3rd Grade Reading	71%
6th Grade Reading	48%
3rd Grade Mathematics	54%
6th Grade Mathematics	44%
Standardized Achievement Tests	
Reading	58%
Mathematics	65%

Differential Effects

The final measure of academic performance that was assessed was the differential effects of magnet programs upon students. Here, two questions were addressed: 1) Are elementary school children more likely to benefit from magnet schools than secondary students, or vice versa?; and 2) Are students in predominantly high minority schools more likely to benefit from magnet programs than students in low minority schools?

These two issues were investigated through an examination of the 1983-84 standardized test scores of targeted magnet schools relative to their district average. The findings were similar. For the 24 elementary schools and 12 secondary schools with complete data, there was no indication that magnet schools benefited K-8 students more than high school students, or vice versa. That is, the percentage of K-8 magnet schools scoring above and below the district average in reading and mathematics was statistically equivalent to the percentage of secondary schools above or below the district average in these two basic skill areas. Likewise, there was no evidence that students in high minority schools (60% or more minority) benefited more from magnet programs than those in low minority schools (40% or less). Again, the difference in achievement standing with respect to district averages, was not statistically significant. Also, in terms of minority composition, there were no statistically significant differences in achievement between magnets that reduced their minority enrollment by an average of 45% over the study period and those that substantially increased their minority enrollment. These results, therefore, suggest that magnet schools work equally well for all students.

Figure 7

Magnet Schools Above and Below District Average on Standardized Reading Achievement Tests
1983-84 School Year

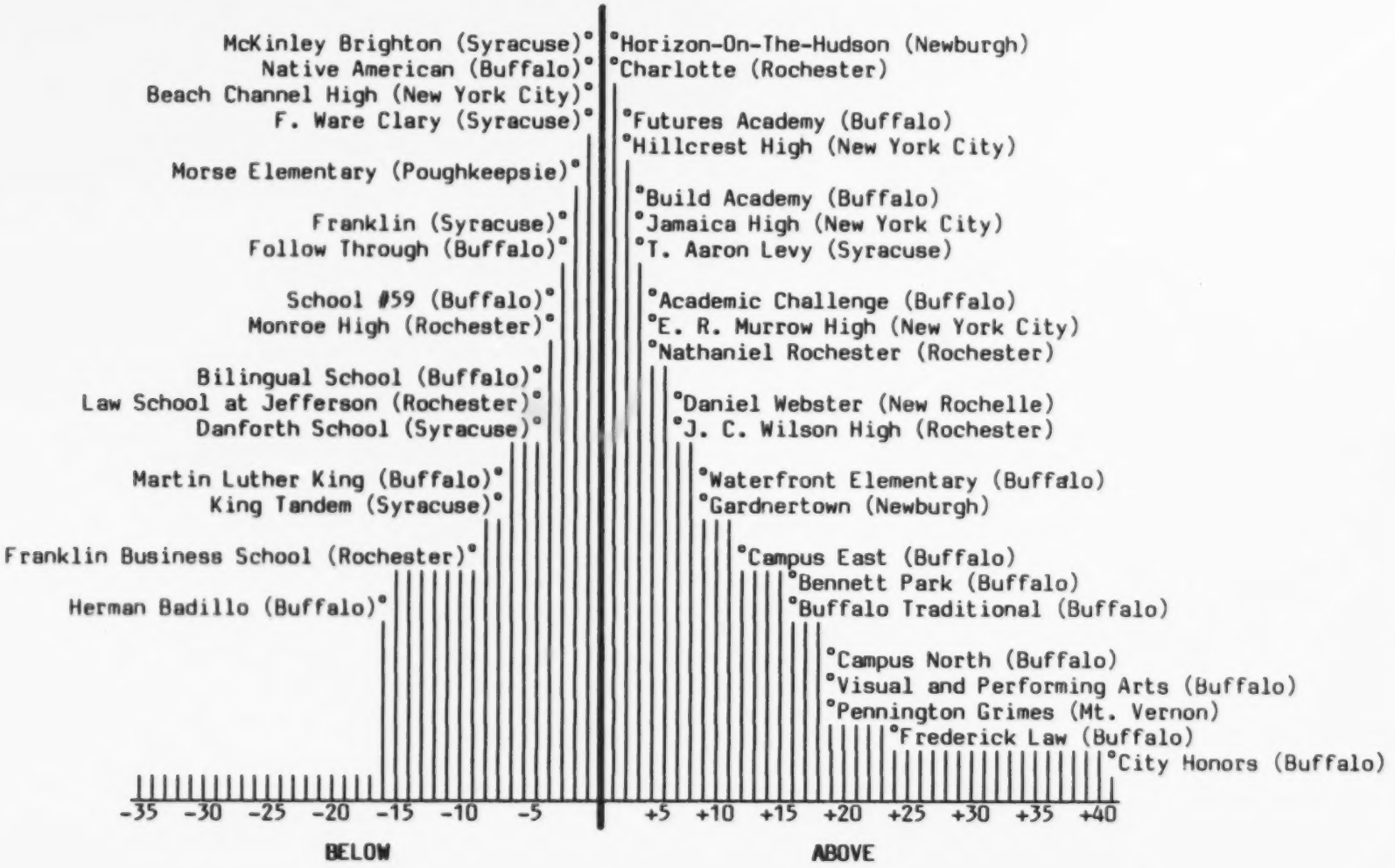
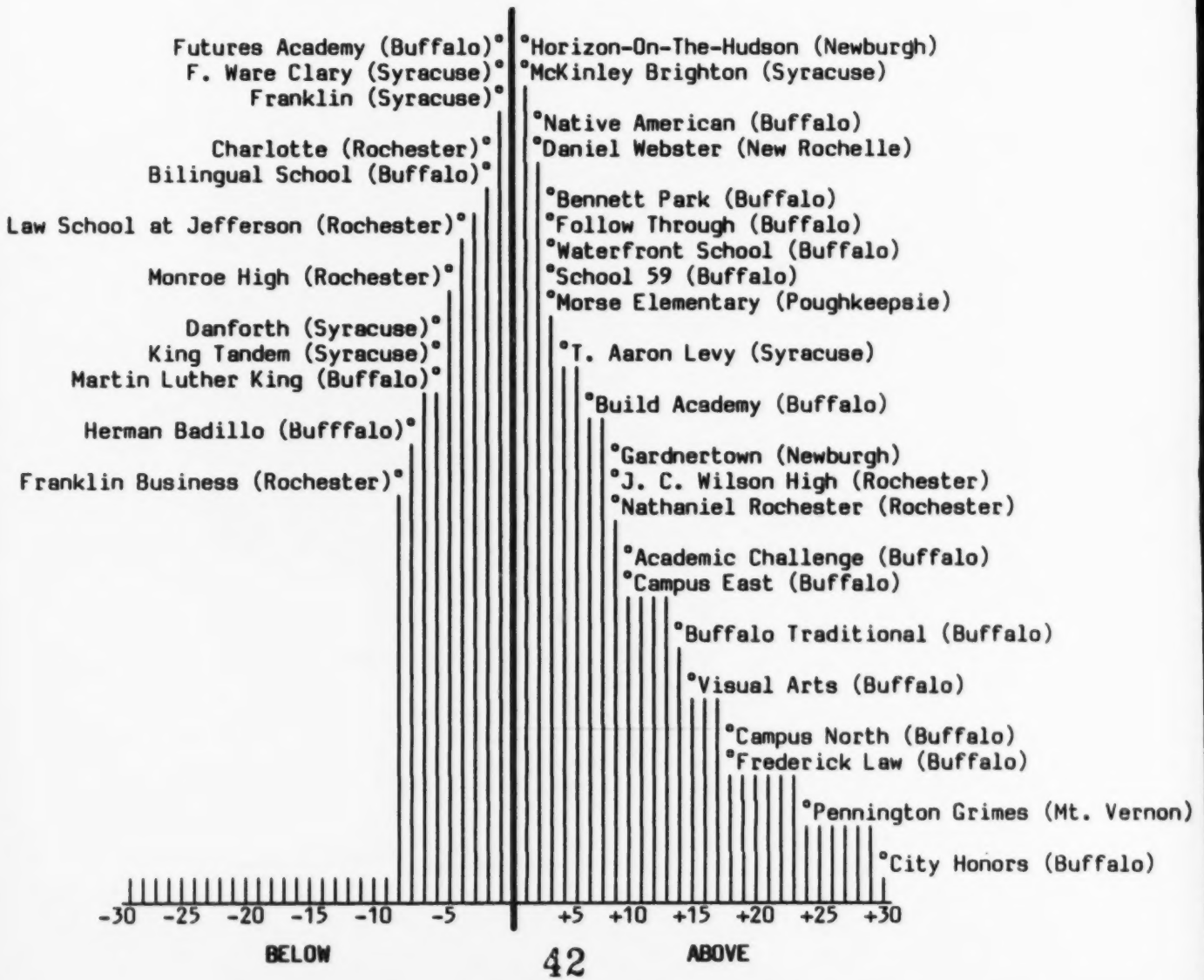


Figure 8

Magnet Schools Above and Below District Average on Standardized Math Achievement Tests
1983-84 School Year



In summary, the data pertaining to student academic achievement were positive. Student performance in a sample of 18 different magnet schools was shown to increase over time. Substantial increments were observed after the introduction of magnet schools, yet the gains did not appear to be due to concomitant changes in racial composition or student enrollment procedures. Rather, magnet programs seemed to be a major contributing factor to the achievement gains. Moreover, the educational effectiveness in magnet schools may have had an effect on magnet districts, as student performance in the districts also increased after the development of magnet programs. In addition to the aggregated achievement findings, individual school analyses also produced encouraging results. As observed, student academic performance generally was above the district average in the majority of magnet schools. Thus, magnet students performed comparably to their district counterparts. Finally, the examination of differential effects revealed that magnets worked equally well in elementary and secondary settings, in settings with different racial composition, and in settings that drastically changed their minority enrollment from high to low, or vice versa, during the 10-year study period. These are meaningful findings which provide strong evidence that the magnet schools are effective schools with consistent levels of high student performance. Nonetheless, it should be noted that most of the comparisons reflect summarized statistics from all schools. Individually, there is no question that certain magnets obtained a higher level of achievement than others relative to their districts. This suggests that some magnet schools may be more effective than others in facilitating student achievement in the basic skills of reading and math.

Attendance and Dropout Rates

"There's something about this place that keeps me coming back, even though the work is hard. It's a feeling I can't explain on paper; it's a togetherness..."

Student
Wilson Magnet High School, Rochester, NY

Testimony from around the country provides persuasive evidence that magnet schools excite, challenge, and motivate students. But do these special programs also encourage students to become more interested in learning? This issue was examined through an analysis of two factors: school attendance and dropout rate. It was reasoned that if New York State magnets were, in fact, offering exciting and creative programs, then students should be more willing both to attend and remain in school.

The findings from this analysis were extremely favorable. As Figure 9A depicts, the average daily attendance rate in magnet schools was higher than district-wide averages. In addition, the dropout rate for magnet school students was lower than the district averages (see Figure 9B). Furthermore, as Figures 10A and 10B reveal, the findings were consistent for individual schools. Specifically, 35 of the 39 schools with available attendance data exceeded their districts' attendance average, and three-quarters of the 11 high schools with available data had better dropout rates than their district average. Thus, these findings indicate that magnet programs encourage students

both to regularly attend and to remain in school. The holding power of these programs is a further indication of the educational quality offered in magnet schools.

Figure 9A

Average Daily Attendance Rate in Magnet Schools Compared with District-Wide Averages 1983-84 School Year

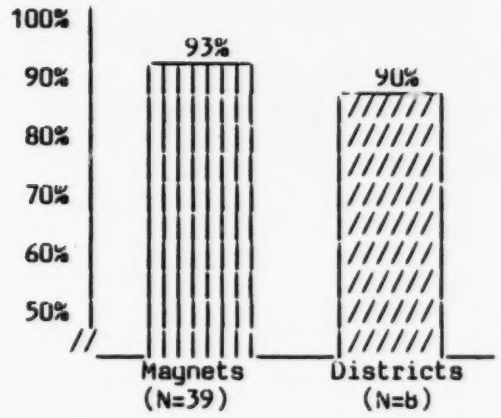
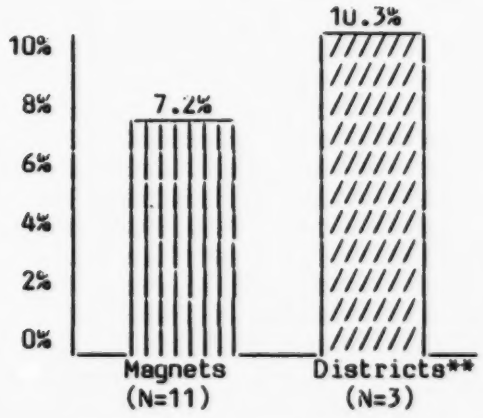


Figure 9B

Dropout Rate* in Magnet Schools Compared with District-Wide Averages 1983-84 School Year



*The dropout rate is an annual rate. Although a true dropout rate is difficult to establish, many educators multiply the annual rate by 4 to yield an approximate true dropout rate.

**Only Buffalo, Rochester and New York City School Districts had high school magnets.

Figure 10A

Percent of Magnets Scoring Above and Below District in Attendance Rates - 1983-84 School Year

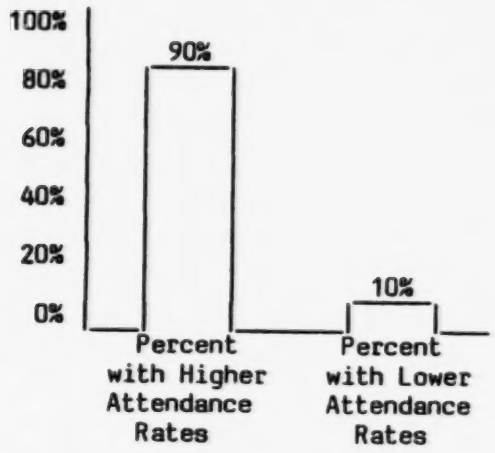
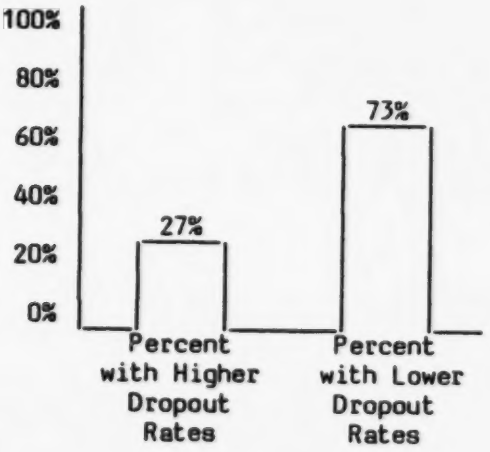


Figure 10B

Percent of Magnets Scoring Above and Below District in Dropout Rates - 1983-84 School Year



Program Design

Beach Channel High school is located on the Rockaway Peninsula in Queens. In this science magnet, oceanography and the marine sciences are integrated into all areas of the curriculum to provide a consistent educational theme. In art classes, students use the natural clays of the peninsula, its seashells, and driftwood to make various designs. In math classes, they solve problems involving oceanography; they plot pressure against depth and solidity against temperature, so that graphing becomes a meaningful activity. Geography and history also become living, meaningful activities at Beach Channel since the ocean is the keystone of all activities. Oceanography is integrated into English classes as well, where the literature of the sea is read, and into shop classes where every 9th grade student makes a ship's wheel and in the process learns how to use power tools. The Beach Channel magnet, like the other 40 magnets in New York State, is distinctive. And it was designed to be that way so that parents and students could be offered attractive and exciting educational options in a desegregated setting.

According to the literature, effective magnet schools have program "definitiveness."[7] That is, they have a strong program design, with clear goals, a coherent theme, and a rich curriculum that offers educational choice and diversity to parents and students. These features are blended together to form a highly identifiable whole, which the community recognizes as a good school and as a good magnet. To determine the extent to which New York State magnets shared these programmatic features with effective magnet schools, the research study examined the goals, themes, and types of educational opportunities offered in the New York programs.

Several significant findings emerged from this assessment. First, New York State magnet schools had clearly articulated goals that were consistent across individual programs. The most important goals of magnet education, according to the majority of principals, were to provide educational choices to parents and students, and to improve students' basic skills (see Table 4). Significantly, the goals and instructional features of magnet schools were understood and accepted by parents and teachers alike. As Figure 11 reveals, the vast majority of parents knew about the purposes, philosophy, teaching methods, and curricular themes of magnet programs. And a similarly high percentage of parents and teachers were satisfied with these program components (see Figure 12).

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7 Blank et al., op. cit.

Table 4

GOALS OF MAGNET EDUCATION AS PERCEIVED BY MAGNET SCHOOL PRINCIPALS (N=38)

Goal Statement in Rank Order of Importance	Percent of Principals Ranking Goal as 1st, 2nd or 3rd Priority
Provide parents and students with choices of unique schools or special programs to meet individual needs.	69%
Increase students' basic skills achievement.	62%
Provide integrated education in majority isolated schools.	58%
Increase parental involvement/commitment to the schools' educational programs.	55%
Reduce the psycho-social effects of racial isolation among students and faculty.	45%
Promote substantial curriculum development.	35%
Improve teacher motivation.	31%

Figure 11

Percent of Parents with a Clear Understanding of Magnet School Program Design

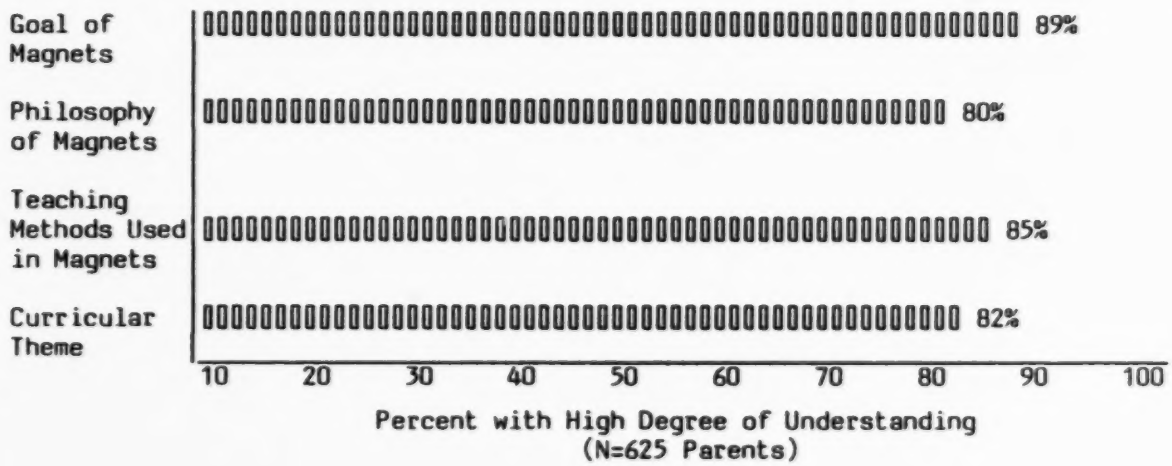
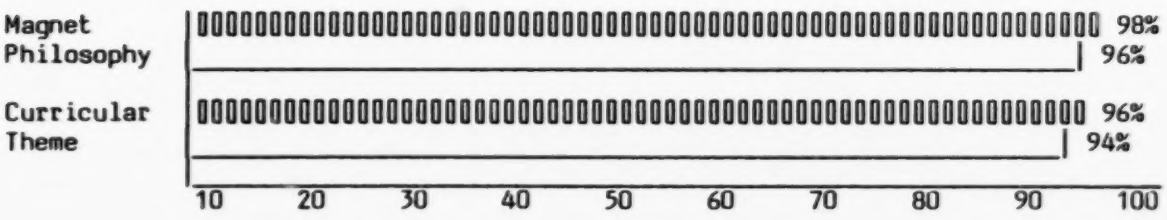


Figure 12

Percent of Parents and Teachers Satisfied with Magnet School Program Design



Percent Very Satisfied or Satisfied
(N=625 Parents, 418 Teachers)

▯▯▯▯ = Parents
[__] = Teachers

The second important finding from the analysis of magnet school features was the degree of instructional diversity offered by magnet programs. New York State magnets reflect virtually every philosophy in education, from fundamental basic skills education to progressive open classroom education. In general, the programs can be organized according to four curricular themes, as shown in Table 5:

° Arts and Humanities	5 schools
° Science/Math	8 schools
° Cultural Heritage	4 schools
° General Academic Emphasis	19 schools

Two magnets with a science focus—School 59 and Beach Channel—have already been described. Examples of other magnets with varying curricular themes are:

Arts and Humanities

Daniel Webster Elementary School in New Rochelle is a K-6 facility that has been referred to as a liberal arts college for children, because its course offerings resemble a typical college. Four major programs comprise the curricular framework: 1) Studio Art, where a professional artist works with children to help them learn the processes involved in creating artwork; 2) Foreign Language, where students learn to speak either French or Spanish and to appreciate various cultures; 3) Talents Unlimited*, a program designed to enhance the thinking skills of youngsters; and 4) Humanities, which includes the study of history, literature, philosophy, and jurisprudence. Each of these components complements the other, and each enhances reading, writing, and mathematics.

*The Director of the Talents Unlimited program in New York State, Robert Molinaro, who is responsible for training hundreds of school districts in the state, reported that the Daniel Webster school has the best Talents Unlimited program in the state.

Table 5

CURRICULAR THEMES USED IN MAGNET SCHOOLS

District	General Academic Emphasis	Cultural Heritage/ Language	Science/Math	Arts	Combination	Other
Rochester			School of of Environmental and Biological Science at Charlotte Nathaniel Rochester School Joseph C. Wilson Magnet High School	School of the Arts at Monroe Nathaniel Rochester Community School	Joseph C. Wilson Magnet High School*	School of Law and Government at Jefferson School of Business at Franklin
Poughkeepsie	Samuel F. B. Morse Elementary School					
Syracuse	Danforth Magnet School T. Aaron Levy Middle School Franklin Elementary Tandem School King Tandem School		McKinley-Brighton Fundamental Math/ Science Magnet School F. Ware Clary Middle School			
New York City	Jamaica High School		Beach Channel High School Hillcrest High School	E. R. Murrow High School		
New Rochelle				Daniel Webster Magnet School		
Newburgh	Gardnertown Elementary			Horizons-On-The-Hudson		
Mt. Vernon				Pennington-Grimes Center for Creative Education**		
Buffalo	Academic Challenge Center Bennett Park Montessori Center Campus School East Campus School West Follow Through School Futures Academy Waterfront Elementary School Campus School North Frederick Law Olmstead School Buffalo Traditional School City Honors	Dr. Martin Luther King, Jr. Multi-Cultural Institute Native American School Herman Badillo Community School Bilingual School #33	School #59 Science Academy	Buffalo Academy for Visual and Performing Arts		Build Academy***

*Arts and Cultural Heritage/Language
**Social Studies and Arts
***Community Involvement

The Pennington-Grimes Center for Creative Education in Mt. Vernon serves students in grades 1-6 through an instructional program geared towards breaking with traditional methods of presentation and learning in an effort to "humanize" education. Students are involved in interdisciplinary multicultural activities derived from and integrated with not only basic skills subject areas, but also special curriculum areas such as dance, sculpture, and drama. Through these content areas students are encouraged to develop their creativity and cultural awareness in an educational environment that stresses student stimulation, exploration, and support.

Cultural Heritage

Dr. Martin Luther King, Jr. Multicultural Institute is a K-8 Buffalo magnet that teaches students to function in a multicultural world. Children are exposed to the rich cultures of Europe, Asia, Africa, and South America on a daily basis. Through research, guest speakers, dramatic presentations, exhibits, and field trips, students learn about the geography, government, foods, and customs of the many countries within these continents. An important part of the program is the learning of second languages. But the Multicultural Institute also has a strong academic program that stresses reading, language arts, and mathematics as the key to academic success.

Academic Emphasis

Newburgh's Gardnertown Fundamental School offers a teacher-directed, structured learning environment for elementary school children. The program serves all types of students, regardless of their ability. Emphasis is on the basic skills of reading, mathematics, and writing. To help develop these skills, homework is given four days a week. Apart from the academic focus, strict discipline is also stressed in the Fundamental School so that students can cultivate a sense of responsibility and confidence. Students are encouraged to be self-reliant and to become contributing members of their classes. Parents also play a major role in the educational process by observing and working in the classroom. Parent contracts are developed that specify the amount and type of involvement that will be provided.

In addition to magnets that use one of these four basic curricular themes, three magnets have very different curricular emphases. Rochester's School of Law and Government, for example, has a legal focus. The program is designed for students who have an interest in legal or political issues and would like to explore careers in law, government or public service. Emphasis is on helping students to acquire "citizen survival skills"—an understanding and familiarity of the legal process. At the Franklin Business School, also in Rochester, the emphasis is on data processing, general accounting, and marketing/management. Franklin students learn from professionals. Consultants from corporations such as General Railway Signal, Hewlett Packard,

Eastman Kodak, and IBM teach courses at least one day a week. Finally, Build Academy in Buffalo is different because it is a popular model of the community-based school. One of the goals of the Academy is to ensure strong, effective community and parent participation in the school's decision-making process.

These vignettes illustrate the scope and diversity of magnet programs and the opportunities for choice among a wide range of very rich and unique learning forums. But while diversity and uniqueness may form the heart of magnet education appeal among parents and students, there is another feature that contributes much to the attractiveness of these programs: regardless of their different themes, New York State magnets demonstrate a common pursuit of academic excellence.

In summary, the analysis of magnet school program features revealed that New York State magnets have certain characteristics in common with effective schools. Like successful schools, the magnets in the study sample had high "definiteness." That is, they had clearly articulated goals and coherent curricular themes that were understood and supported by parents and teachers. The goals emphasized educational choice and diversity, as well as commitment to academic excellence. The goals, furthermore, were reflected in the actual magnet curriculum; a wide range of comprehensive learning opportunities were available, with each having a strong academic focus.

Parent Participation

Active parent participation is taken very seriously in Newburgh. When magnet schools became a reality and neighborhood schools a thing of the past, the school district organized a community linkage program called the Home School Liaison Project. Home school liaisons are paraprofessionals employed to help bridge the gap created by the movement of students away from neighborhood schools to magnets located 5-10 miles from their home. Liaisons provide a vital communication link by keeping parents fully informed of their children's learning progress. Areas of communication include: attendance, health, academic progress, and special needs. Liaisons also play an important role in facilitating parent participation in school events. When transportation is a problem, liaisons will bring parents to and from schools—day or night—to attend meetings, conferences, or other activities. These services have opened new avenues of communication between the community and the school district which, officials say, have nourished and enhanced the quality of education in Newburgh.

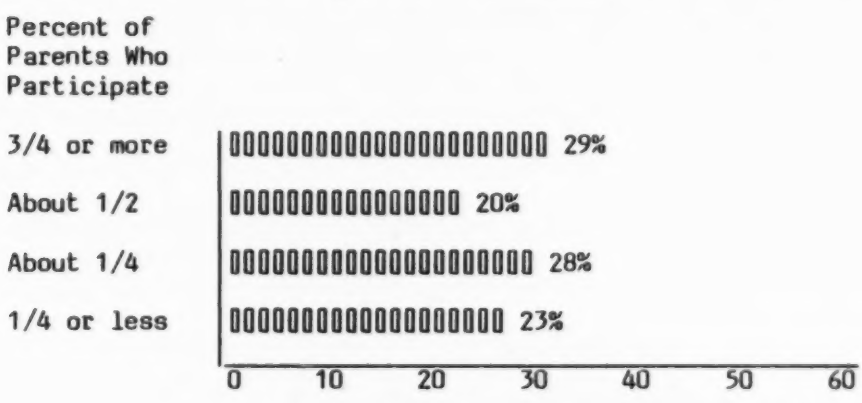
Parent participation has always been an important goal of public education. To the extent that district leaders actively seek involvement from parents and community members, they increase the likelihood that their programs will be accepted and supported. In general, parent participation in magnet schools is very high. Research at federal and state levels has shown that effective magnet schools, in particular, provide increased opportunities

for parental control over educational issues—a finding that holds great promise for magnets as vehicles of educational improvement. The significance of this finding led MAGI to examine parent participation and support in New York State magnet programs. The findings are presented below.

By and large, New York State magnets had exceptionally high levels of parent involvement, especially considering the level typically found in inner-city schools. In nearly half of the sampled magnets, 50% or more of the parents were reported to participate regularly in school-related activities. And in 30% of the schools, three-quarters or more of the parents were considered active participants (see Figure 13). Moreover, in a great many magnets, parent involvement was reported to be higher than in other schools within the magnet district. Areas of increased involvement included: volunteer work, attendance at special meetings, initiation of calls and conferences with school staff, and support of the school's budget.

Figure 13

Percent of Parents Who Typically Participate in Magnet School Activities



It is not by coincidence that parents are integrally involved in magnet programs—their participation is actively sought by school officials. As displayed in Figure 14, 94% of magnet school principals felt that parents should be involved in program activities on a continuing basis, not just in the initial instructional design. The majority of parents confirmed the administrative viewpoint by indicating that teachers and administrators encouraged their active and continuing involvement "to a great extent" (see Figure 15). The Build Academy in Buffalo, for example, ensures strong and effective parent participation in the decision making process by enlisting parent representation on the school's Policy Board. As Board members, parents review, discuss, and recommend policies and projects that directly affect students. Additionally, all parents are encouraged to participate in their children's educational activities through the Parent Involvement Association.

Figure 14

How do you feel about parent involvement in magnet schools?

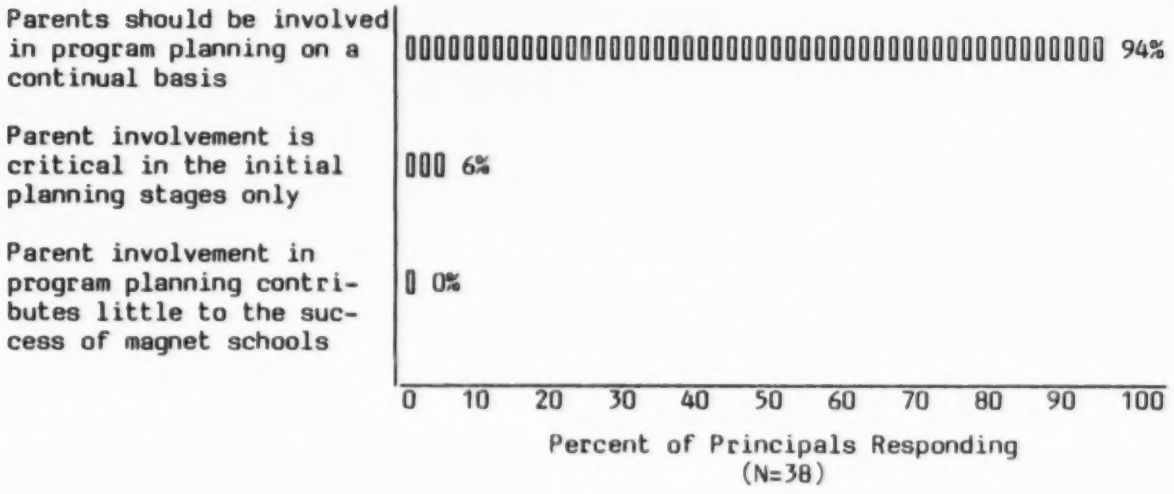
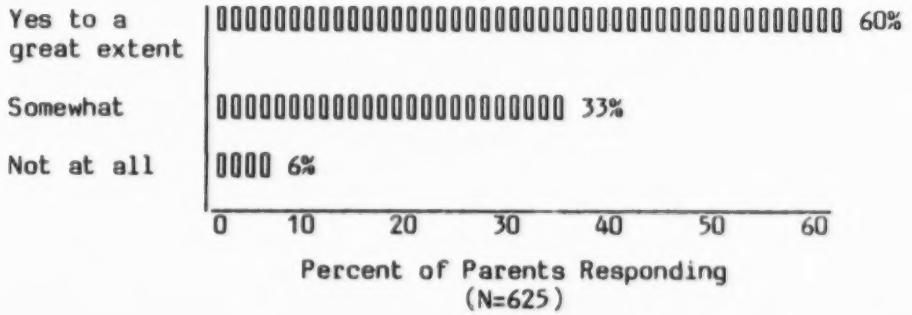

Parents should be involved in program planning on a continual basis
94%
Parent involvement is critical in the initial planning stages only
6%
Parent involvement in program planning contributes little to the success of magnet schools
0%
0 10 20 30 40 50 60 70 80 90 100
Percent of Principals Responding
(N=38)

Figure 15

Have teachers and administrators encouraged your active involvement in your child's magnet school?



The findings of a study of parent commitment and support were equally positive. Practically all of the 625 parents (98%) who responded reported that they were either satisfied or very satisfied with the magnet school program (see Figure 16). Furthermore, the same proportion expressed solid commitment to the magnet concept by stating that they would recommend the magnet school to other parents (Figure 17).

Figure 16

How satisfied are you with the magnet school program?

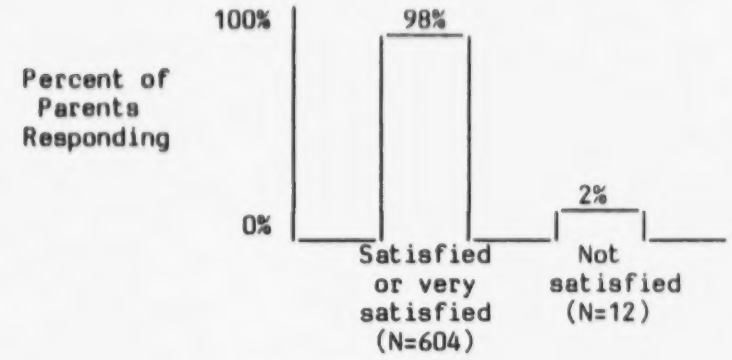
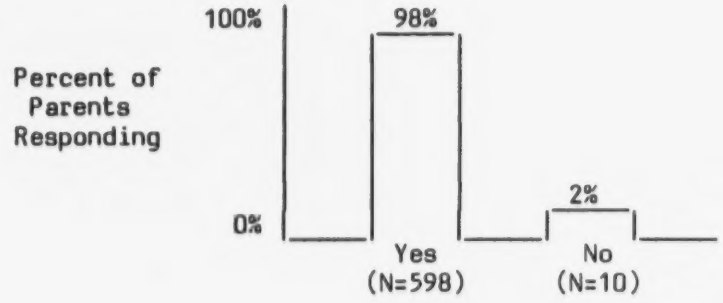


Figure 17

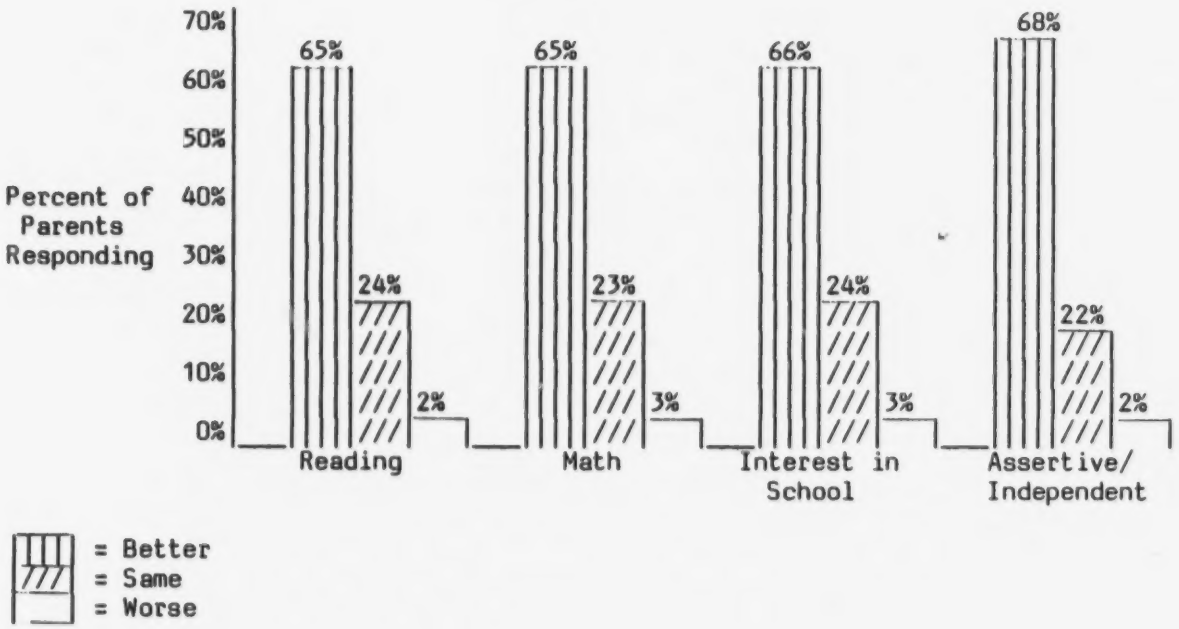
Would you recommend the magnet school program to other parents?



When asked to compare magnet schools with other non-magnet programs in their district with which they were familiar, most parents agreed that magnet schools were better. As reported in Figure 18, two out of three parents felt that magnet schools were better in helping their child with reading and mathematics, in developing a greater interest in school, and in becoming more assertive and independent. The high ratings were validated by parents' open-ended comments (see following page). Examination of the responses revealed overwhelming confidence and belief in magnet schools.

Figure 18

Compared to non-magnet schools, how would you rate your child's magnet school?



In sum, the level of parent involvement in the majority of New York State magnet schools was very high. More importantly, parents expressed strong commitment and support for their magnet programs. The strong backing from parents, coupled with the participation results, suggest that magnet schools can effectively promote community interest in the schools, and perhaps restore the public's confidence in the educational system. These findings are significant and provide further evidence of the educational quality that can be offered in magnet schools.

Parents' Comments About Magnet Schools

The academic achievement is astonishing.
(Mt. Vernon - Pennington-Grimes)

My daughter has learned to listen and apply herself each day. She is a straight A student since attending the magnet school.
(Mt. Vernon - Pennington-Grimes)

It (the magnet program) seems to put children a step or two ahead about getting into a better career, or just dealing with the changing world.
(Syracuse - McKinley Brighton School)

The major benefit is the exposure my children receive to many varied experiences (foreign language studies, arts, the humanities) that they would not otherwise get if they were attending a non-magnet school.

(New Rochelle - Daniel Webster Magnet School)

It helps my son to learn more than in a regular school. He gets more advanced work and can go at his own pace. It also helps him to learn how to work on his own, as well as with a class.

(Buffalo - School #56)

It has given my child many opportunities (educationally, socially, etc.) that she would not have experienced in a non-magnet school. The program that my child is in meets her special needs for educational stimulation, development and growth.

(Buffalo - School #56)

Learning Environment

"...I have had the opportunity to visit some of the Magnet Schools in Rochester and was impressed with the outstanding student participation in the educational process. There was great evidence of the commitment of the Board of Education, staff dedication and parent involvement. The facts presented in this booklet (Evaluation Booklet) verify this commitment and indicate a course for continued 'excellence'. It is with this evidence that I charge the Rochester City School District to continue this effort and pledge my support to this outstanding district endeavor. Through efforts such as these, the future of the young people of Rochester and the State of New York will be more secure."

Excerpts from a letter to the Rochester School District
Mario M. Cuomo
Governor, New York

Learning does not take place in a vacuum. Rather, it occurs in an environment that either actively supports educational effectiveness or unwittingly works against it. Among the factors that can cultivate academic excellence are the overall climate for learning, and the commitment and responsiveness of district leaders and staff. These factors were closely examined in the magnet school research study; pertinent findings are discussed in the following sections of this report.

School Climate

One of the strengths of New York State magnet schools was the nature of the learning climate described by principals and teachers. The majority of these administrators and staff rated magnet schools as having a positive school climate, with strong leadership, cohesiveness, teacher-directed learning, and sound working relationships (see Figure 19). Many of the respondents also felt

that their magnet schools were free from disciplinary problems, a perception that was confirmed in at least eight schools with available suspension rate data. For example, in Rochester's magnet schools, 6th-12th grade students had fewer incidences of suspension from school than district-wide averages (see Figure 20).

Figure 19

Percent of Principals and Teachers Rating School Climate Indicators Positively for their Magnet School

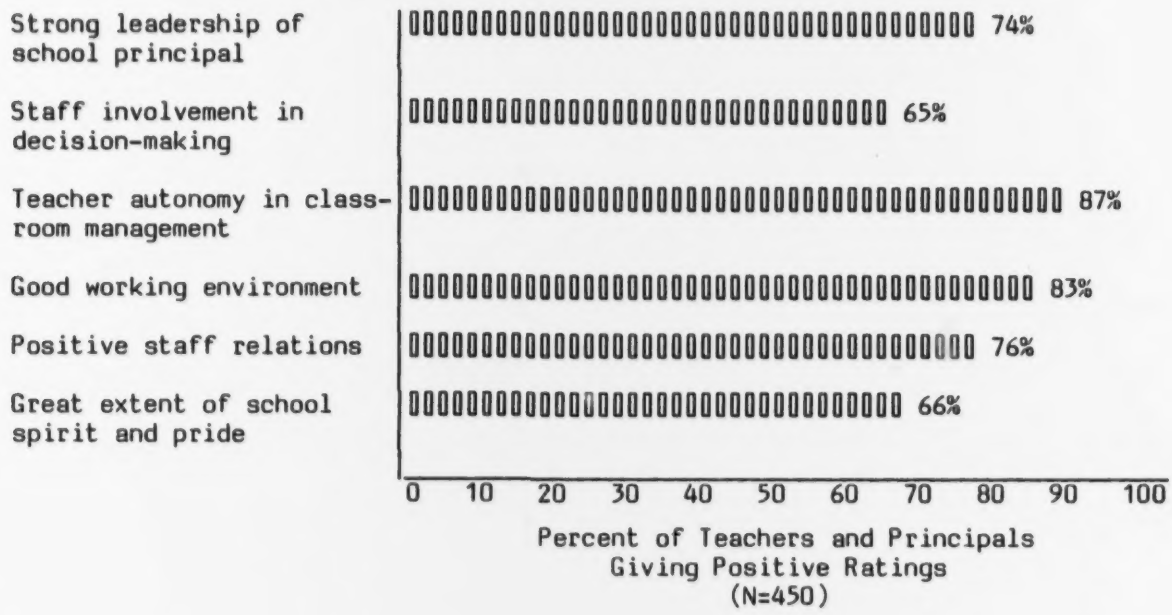
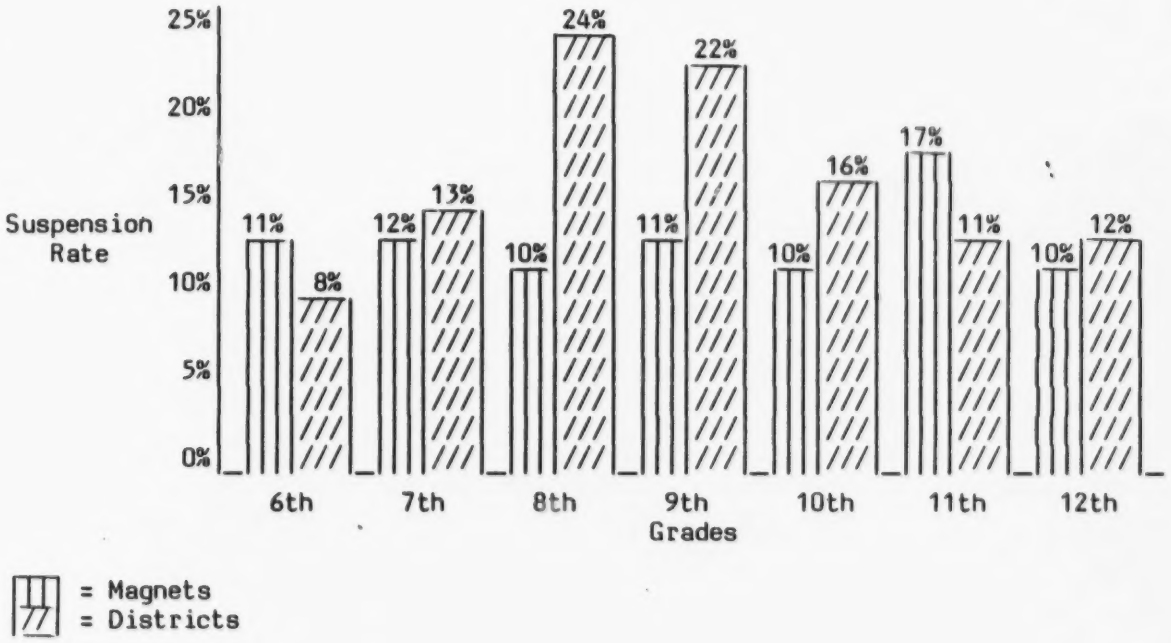


Figure 20

Short-Term Suspension Rates in Rochester Magnet Schools and District Averages 1983-84



New York State magnets also were characterized by high levels of communication. In most schools, for example, formal staff meetings were held at least once a month. But as Figure 21 reveals, over half of the magnet school teachers and principals stated that they informally discussed the magnet program several times during the month. Apart from the faculty interactions about program-related matters, the overall interchange between students, administrators, teachers, and parents was favorably assessed by principals and teachers; three-quarters or more of the respondents indicated that the level of communication in magnet schools was <u>better</u> than in non-magnet schools (see Figure 22).

Figure 21

How often do you meet informally with other teachers and/or administrators in your school regarding the magnet program?

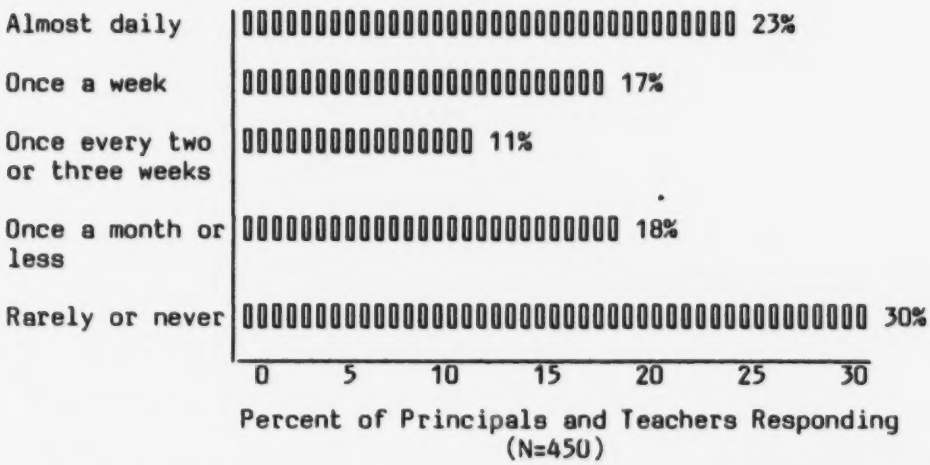
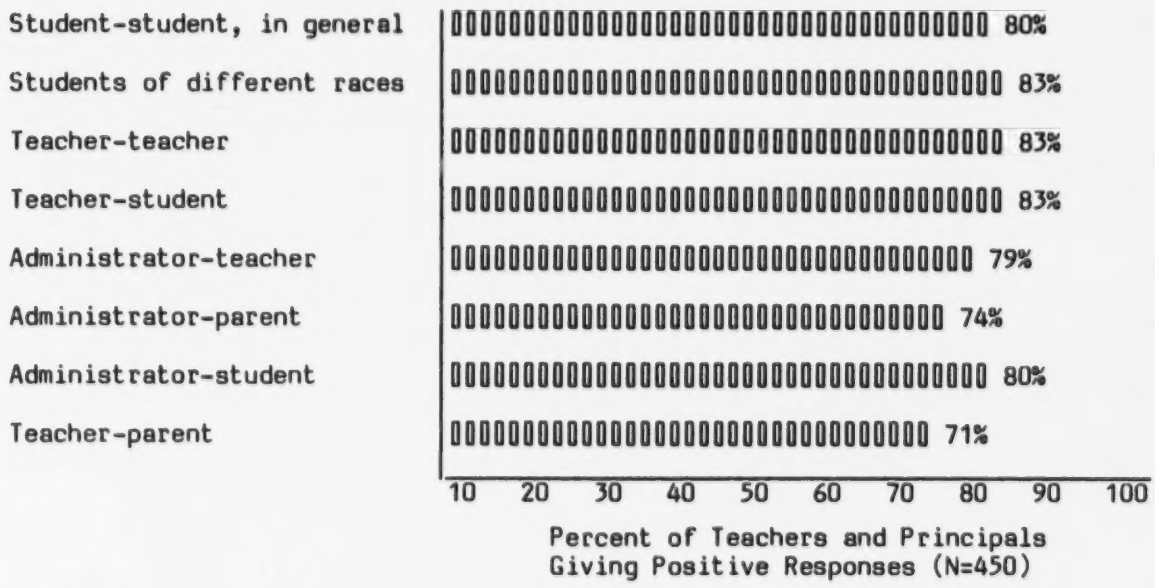


Figure 22

How would you describe the level of communication between the following groups in your school?



The school climate results, thus, offer additional corroboration of magnet schools as quality facilities that are conducive to both teaching and learning.

Commitment and Responsiveness

Some have said that the key to a successful program lies in the people and not in the structural design. In some ways this statement is true of educational programs where characteristics such as the professional qualities of staff, staff continuity, and commitment bear positively upon overall school effectiveness. These features were clearly evident in New York State magnet schools. In terms of professional background, magnet schools were able to secure highly qualified teaching staff. Figure 23 indicates that over 70% of magnet teachers had at least a Master's degree, and approximately 30% had earned a Master's degree plus credits toward a Doctorate. Essentially similar results were obtained when educational background was examined within districts. That is, 65-70% of the magnet teachers within most of the districts had a Master's degree or higher. However, as Figure 24 illustrates, not all districts were able to employ as many educationally qualified teachers for their magnets.

Figure 23

Educational Background of Magnet School Teachers

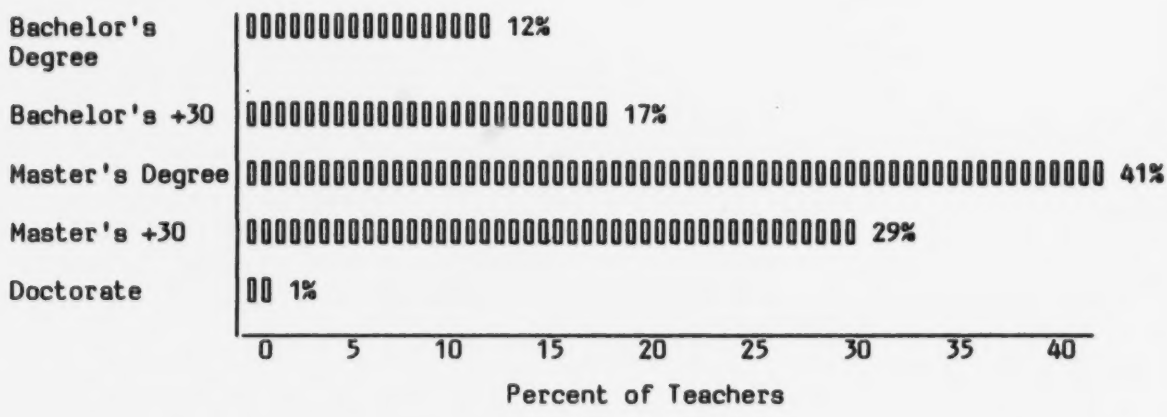
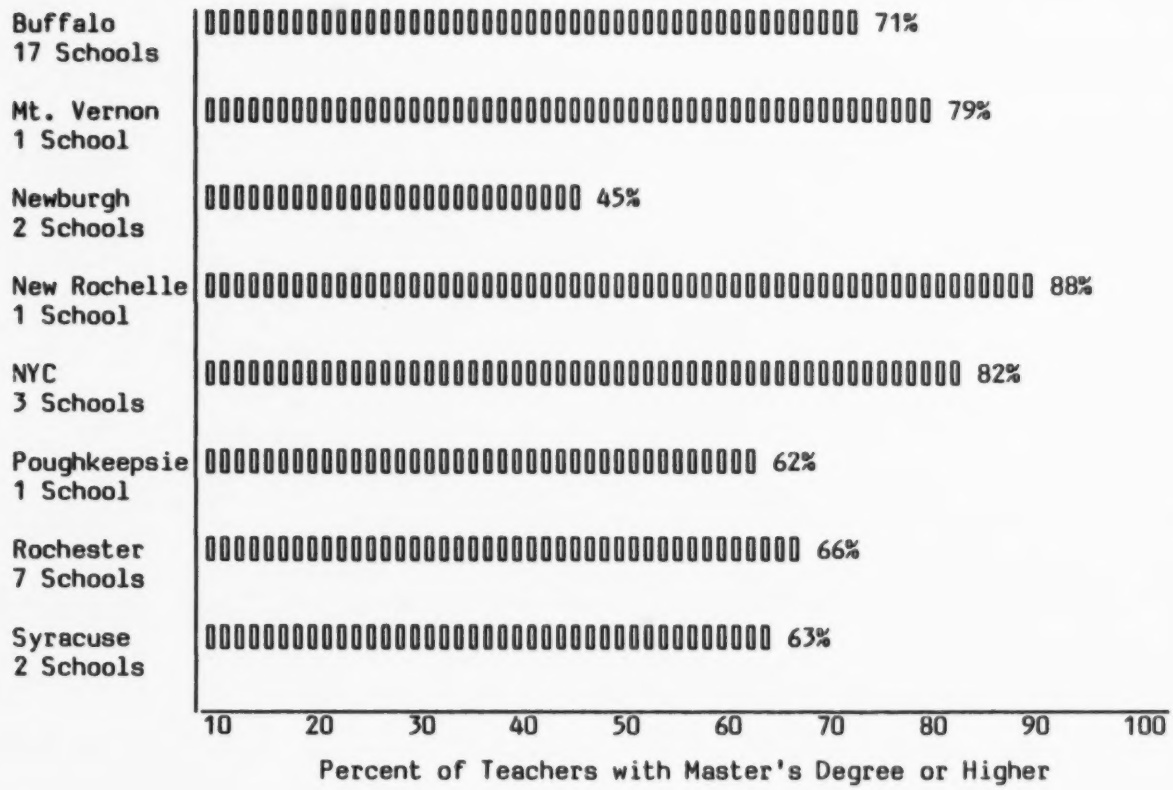


Figure 24

Educational Background of Magnet School Teachers:
Percent within District with Master's Degree or Higher



Stability and continuity among staff were studied by analyzing teacher turnover rate. Here, the findings also were very impressive. According to Figure 25, one-quarter of the teaching staff left their jobs between the 1976 and 1977 school years. By 1985, however, the turnover rate virtually was cut in half. Figure 26 shows that the pre-post findings generally were consistent within districts. The most dramatic change was observed in the Buffalo School District where the turnover rate in magnet schools declined by almost 60% from 1977 to 1985. While these declines might be attributable to many factors, such as the state of the economy and the job market, the "post" turnover rate standings indeed suggest that magnet programs enjoy a relatively stable teaching staff.

Figure 25

Teacher Turnover Rate for All Magnet Schools Combined
from 1976 to 1977 and from 1984 to 1985

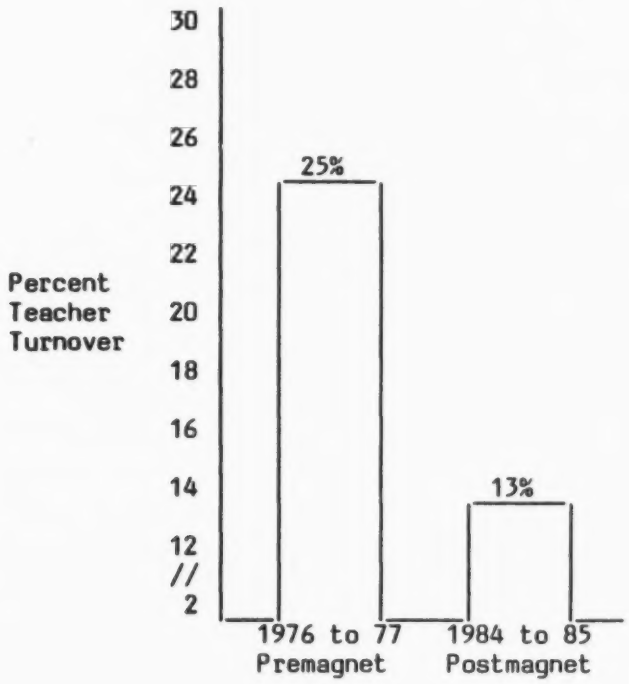
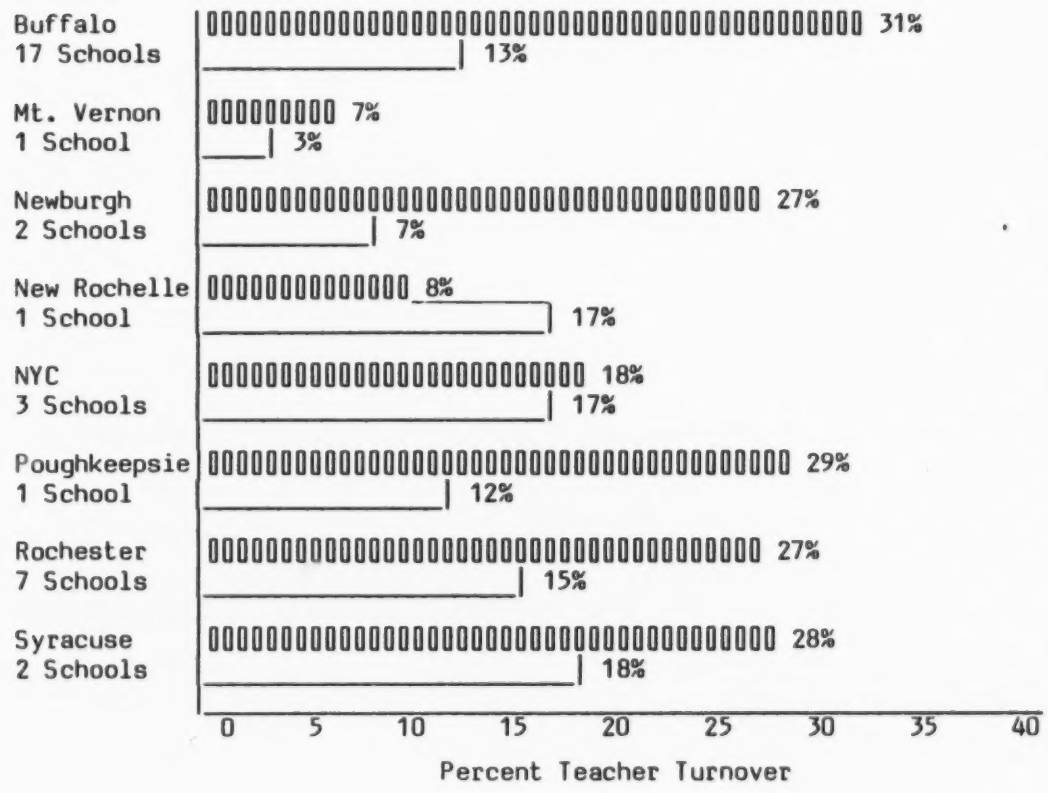


Figure 26

Teacher Turnover Rate in Magnet Schools Within District



▯▯▯ = Pre*
[_] = Post

*Pretest varies depending upon individual magnet start date.

Support and commitment were the final factors assessed in the study of magnet school learning environment. Again, the data were quite encouraging. For example, when principals were asked to describe the level of support among district leaders, teachers, students, and parents, the vast majority described these groups as being "supportive" or "very supportive" (see Figure 27). When asked about their own level of commitment, both principals and teachers favorably endorsed their magnet schools. Specifically, 80% rated magnet schools as superior to non-magnet programs, and 90% felt that magnet schools successfully met the needs of students for whom they were intended (refer to Figures 28 and 29). This endorsement by magnet school principals and teaching staff, together with the professional qualities and stability results, is further indication of the educational effectiveness that can be provided by magnet programs.

Figure 27

How would you characterize the position of each of the following groups toward magnet schools?

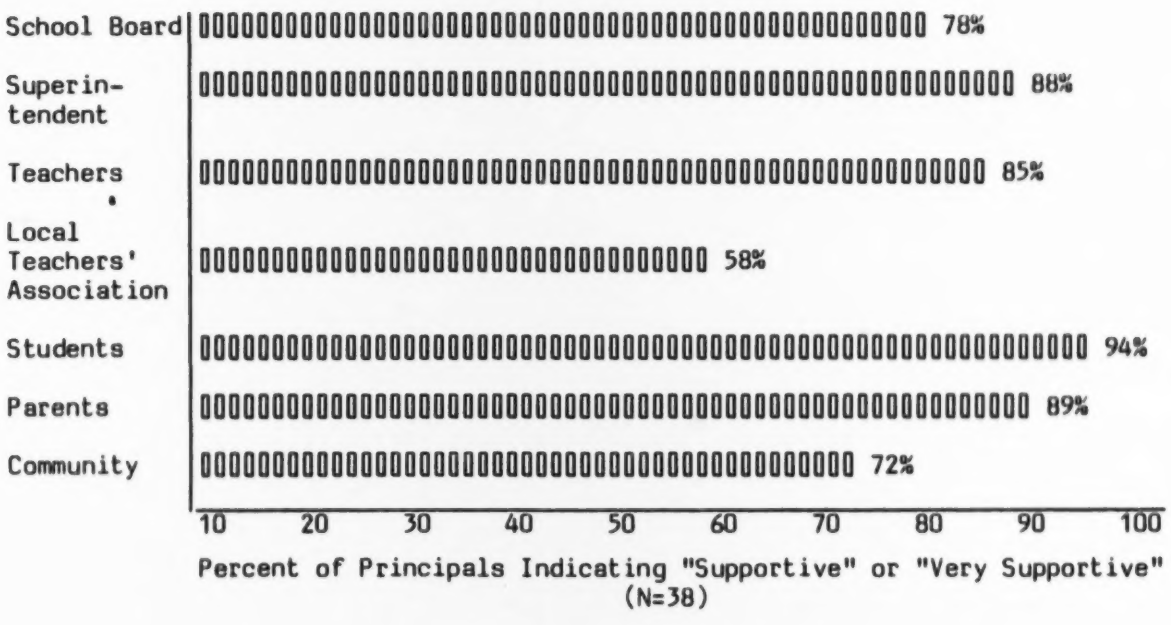


Figure 28

Compared to non-magnet schools with which you are familiar, how would you rate your magnet program?

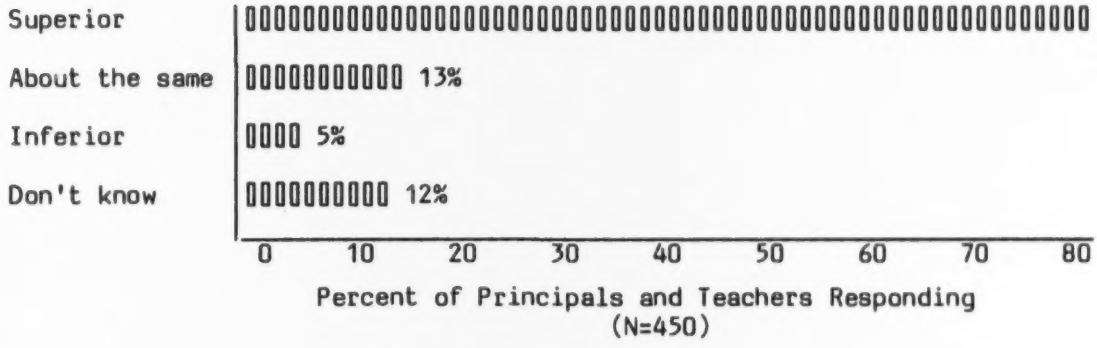
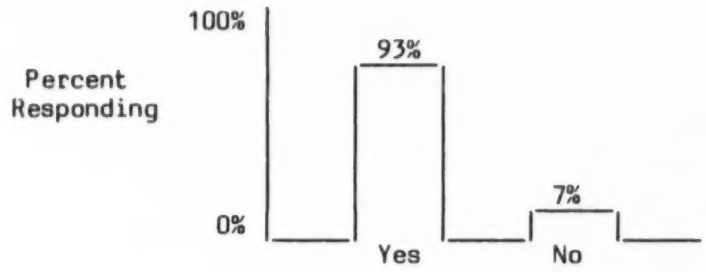


Figure 29

Are magnet schools meeting the needs of students?



Quality of Education Summary

At the beginning of this section, a critical question was raised. Namely, "Do magnet schools provide quality education?" Based upon the reported results, the answer appears to be "YES" for the majority of New York State magnet schools. The analysis of student performance revealed that magnet students generally performed above the district average in reading and math achievement, findings which held true for all students regardless of grade level and racial background. Attendance and school dropout rates were also shown to be better in magnet schools as compared to district averages. Examination of the magnet school curricular design showed that magnets offered a wide range of comprehensive learning opportunities that emphasized educational choice and diversity, as well as a commitment to academic excellence. In addition, the study of parent involvement revealed high levels of participation in most magnet schools, and a great degree of parental pride and confidence in magnet programs. Lastly, the analysis of the magnet school learning environment demonstrated a positive school climate with strong leadership, cohesiveness, and solid staff commitment.

Thus, the evidence indeed suggests that magnet schools are quality programs that can offer much to those charged with educational improvement efforts. Although some magnets succeed better than others in fulfilling this broad mission, by and large all magnets provide a workable alternative to quality education in a desegregated setting.

Do Magnet Schools Promote Racial/Ethnic Balance?

On January 13, 1983, 550 black and white balloons were released by students at the Danforth Magnet School in Syracuse to honor Dr. Martin Luther King, Jr.'s birthday. Attached to each balloon was a message of peace, freedom, equality, and a student's name. The flight of the balloons symbolized the theme of brotherhood. It was one more way in which Syracuse magnet schools create positive and integrated educational environments for students.

The fundamental measure of success for magnet programs rests in their ability to promote racial balance in the schools. Because magnets work on the basis of choice and offer attractive educational alternatives, they are uniquely suited to achieve this school-wide goal. But magnet effects can extend beyond the schools themselves. As magnets pull students into programs where they might otherwise not have enrolled, the composition of other district schools can become more racially balanced. Thus, in the context of a larger desegregation plan, magnets can be used as effective desegregation remedies district-wide.

Were New York State magnet programs effective desegregation vehicles? This question was the cornerstone of the magnet school research study. It was addressed by examining two additional queries:

- What changes have occurred in student racial composition over time?
- Does racial composition in magnet schools reflect the district-wide composition?

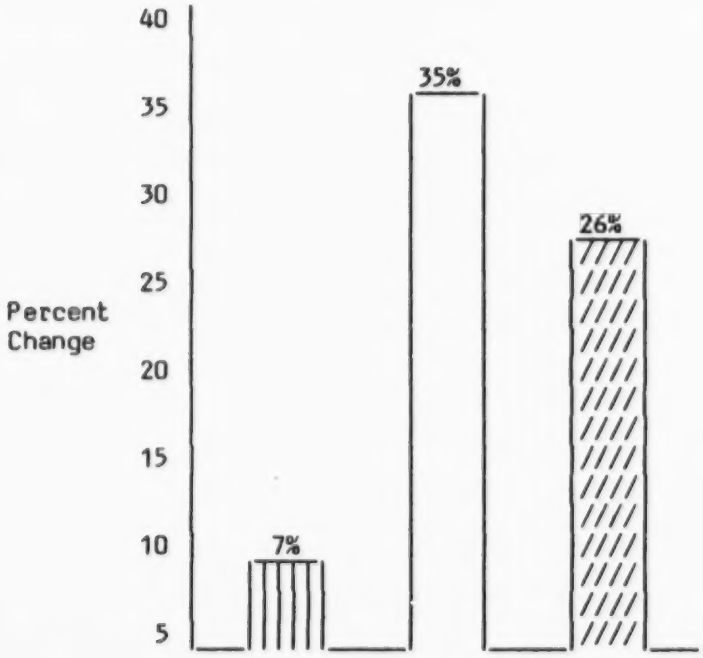
Answers to these questions are presented below.

Changes in Racial Composition Over Time

Student enrollment data examined over a 10-year period provided convincing evidence that magnet programs promote racial balance in the schools. Figure 30 illustrates changes in racial composition from 1973-1983 for three groups of magnets: 1) all magnet schools combined; 2) "high minority magnets" (1973 minority enrollment = 89%—well above the district average); and 3) "low minority magnets" (1973 minority enrollment = 26%—well below the district average). As can be seen from the first bar in the graph, the average 10-year change in minority enrollment for all schools combined was 7.1%. However, over half of the schools in the sample demonstrated more than a 20% change in racial composition, and one-quarter of these schools showed a 40% change in racial enrollment patterns over the 10-year study period. As might be expected, high minority magnet schools showed the greatest changes over time, with an average decline in minority enrollment of 35% (see second bar in Figure 30). Schools with relatively lower levels of minority enrollment in 1973 also witnessed substantial changes, with an average minority enrollment increment of 26% (refer to third bar in graph).

Figure 30

Changes in Minority Enrollment in Magnet Schools - 1973-1983 (N=39)



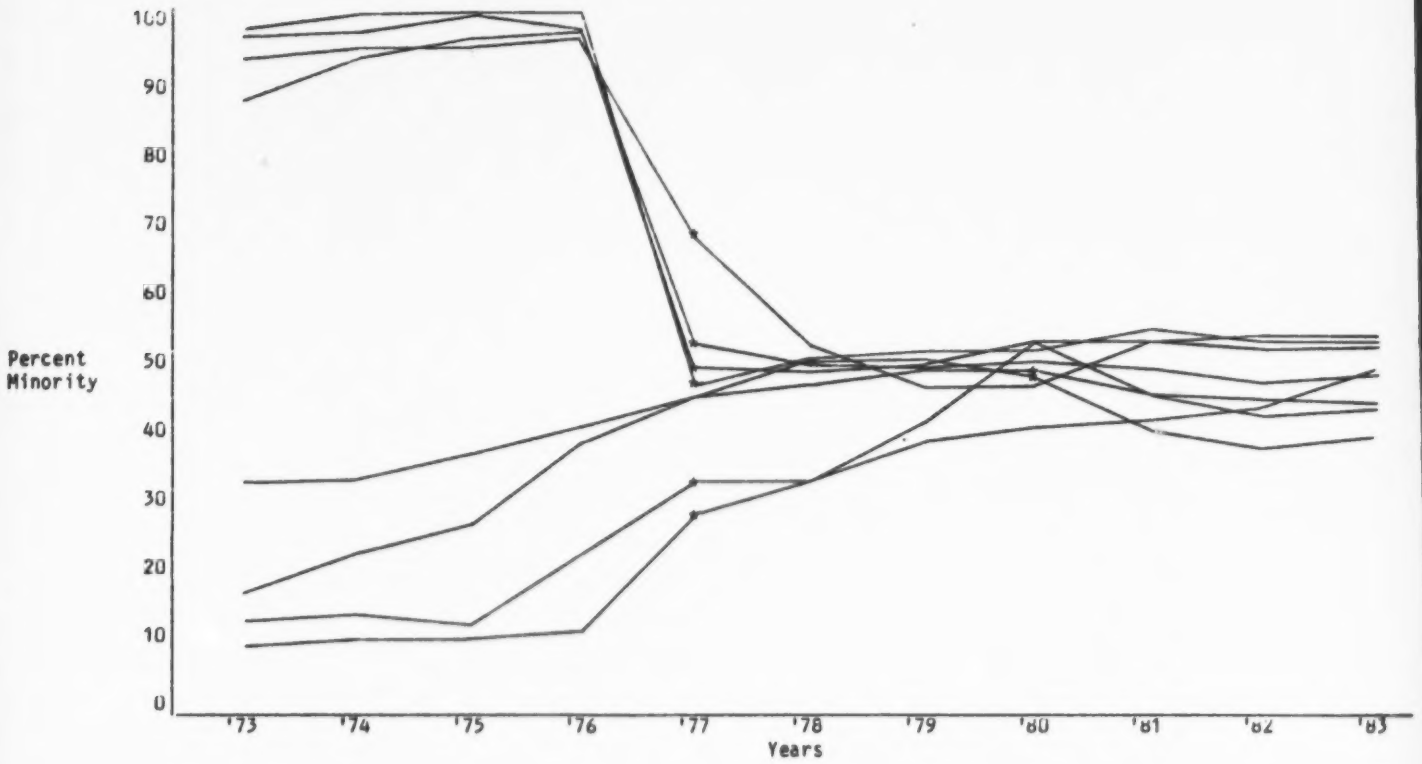
= All magnets combined
= High minority magnets (N=18)
= Low minority magnets (N=21)

The findings were even more illuminating when individual school data were inspected. Figures 31-34 present the racial enrollment patterns of several magnets from four school districts: Buffalo, Newburgh, Rochester, and Syracuse. As these figures indicate, substantial changes in minority enrollment occurred over time for most schools. And the greatest changes occurred when magnet schools were first introduced. Thus, the school-wide data clearly showed that racial isolation was reduced in the majority of magnet schools. Furthermore, the data suggested that magnet programs contributed significantly to this change.

However, the findings also revealed that not all schools designated as magnets actually functioned as effective magnet schools (i.e., racial isolation was not reduced nor was student achievement improved). Although the investigators found several examples of this among the schools in this initial statewide study of magnet schools, the Dr. Martin Luther King, Jr. Multicultural Institute in Buffalo and the Franklin Tandem School in Syracuse illustrate this phenomenon well. As can be seen in Figure 34, the King Tandem School was a high minority school prior to magnet school designation in 1977. Although the minority enrollment showed a slight decline following the inception of the magnet program, minority students constituted almost 80% of the enrollment in

Figure 31

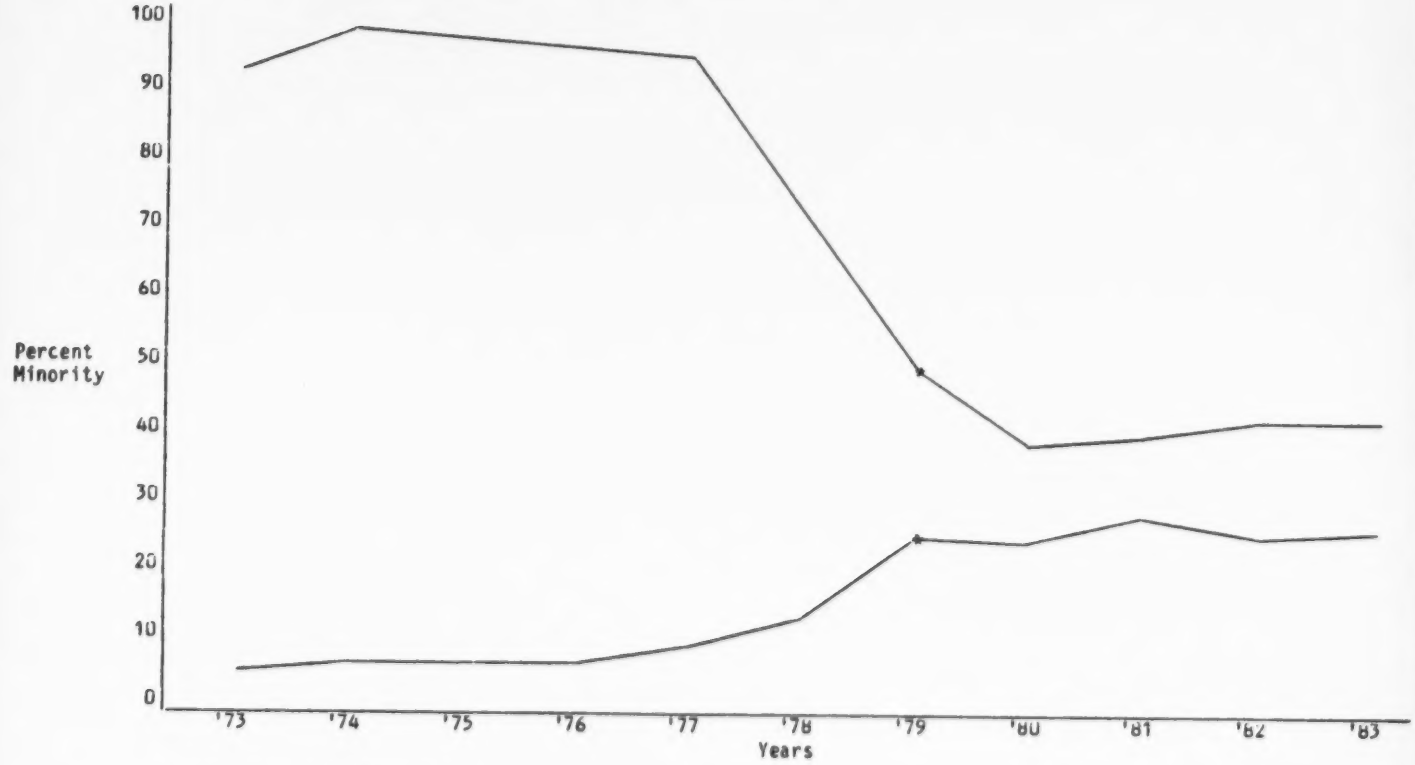
Buffalo School District†
Change in Percent Minority Enrollment in Selected Magnet Schools
over Study Period, 1973-83



†Eight of the eighteen Buffalo Magnets are represented on this Figure
*Magnet School Implementation

Figure 32

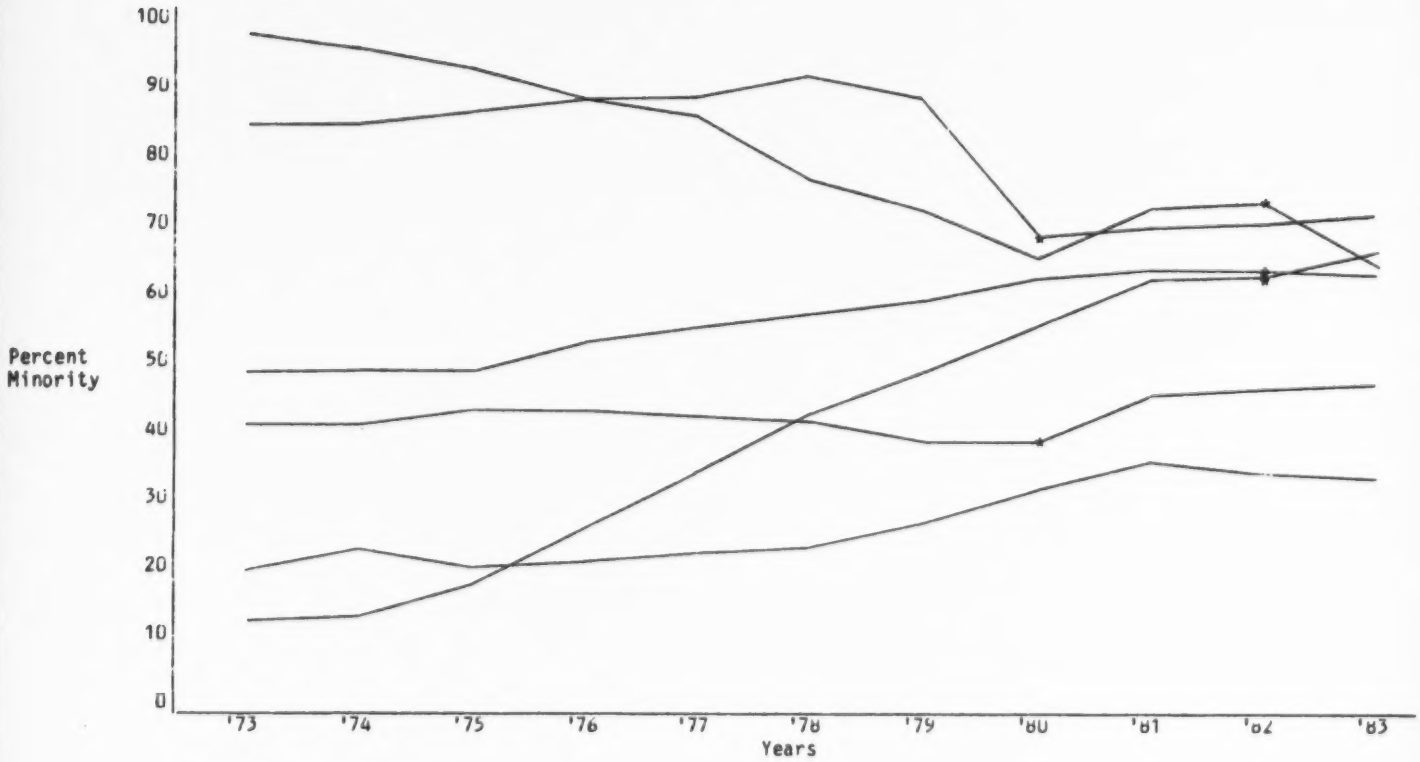
Newburgh School District
Change in Percent Minority Enrollment in Magnet Schools
over Study Period, 1973-83



*Magnet School Implementation

Figure 33

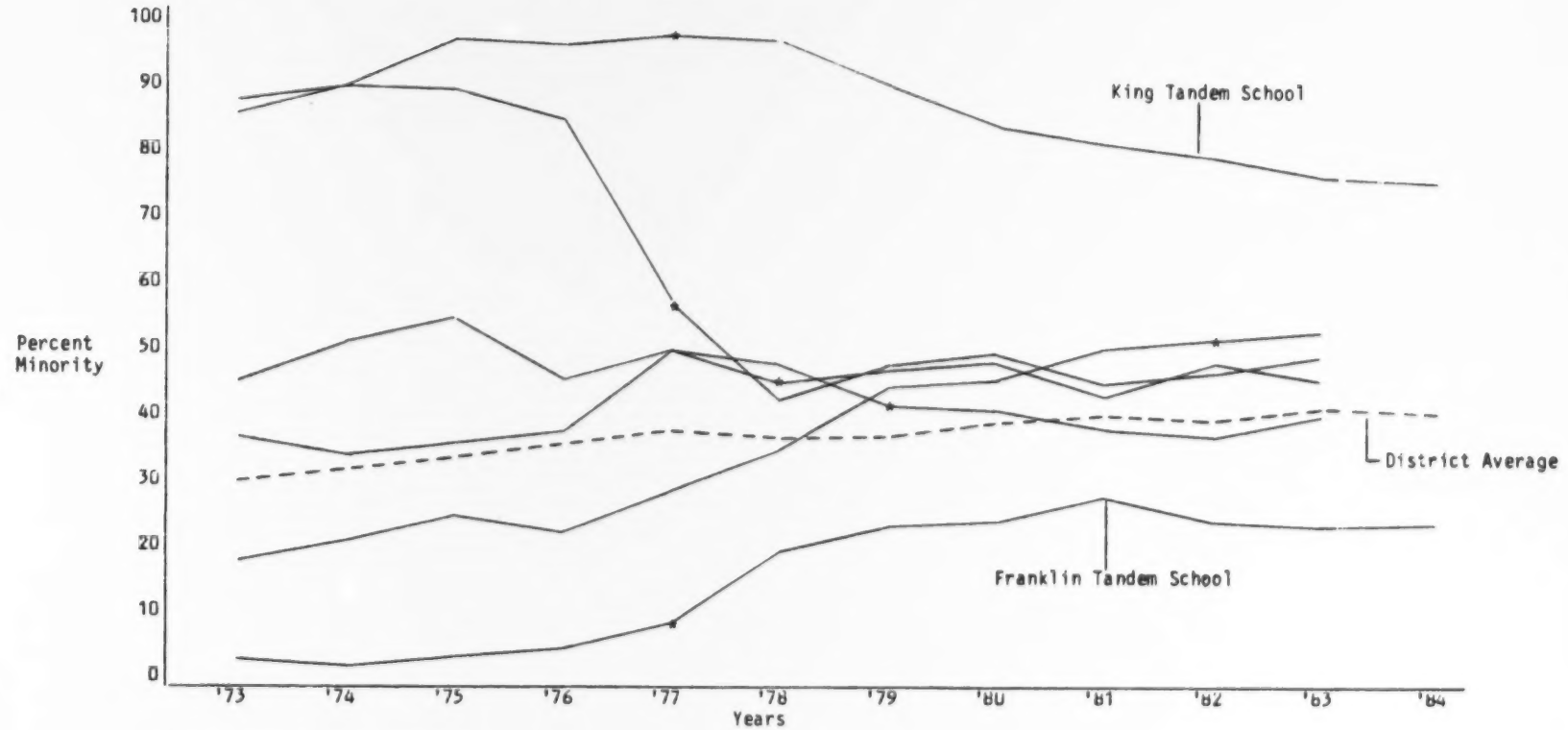
Rochester School District
Change in Percent Minority Enrollment in Magnet Schools
over Study Period, 1973-83



*Magnet School Implementation

Figure 34

Syracuse School District
Change in Percent Minority Enrollment in Magnet Schools
over Study Period, 1973-85



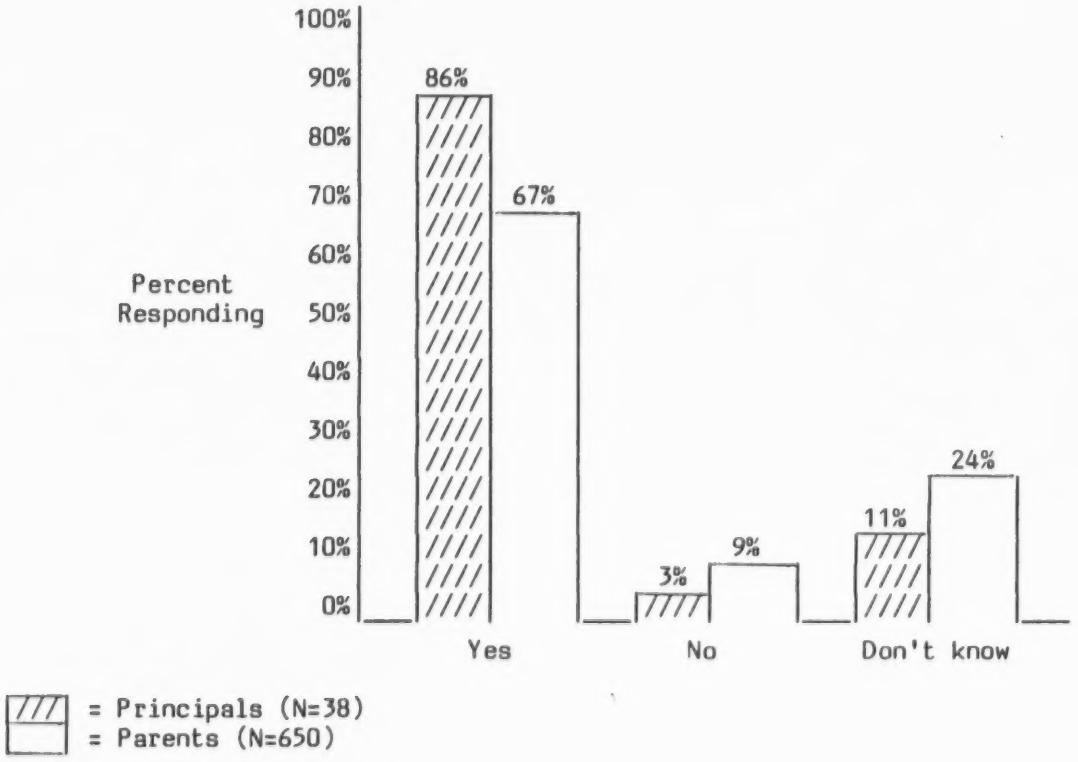
*Magnet School Implementation

1984-85—a full seven years after the school was classified as a magnet. In contrast, the Franklin Tandem School, its paired counterpart, had a minority enrollment of approximately 10% at the start of the magnet school designation. This school's minority enrollment increased somewhat over the next four years, but has been declining over the past three years. Its 1984-85 minority enrollment was approximately 25%, well below the district average of 40%. Another indication of the questionable status of these "magnet schools" is the recent public announcement that the King Tandem School is on the New York State Education Department's Comprehensive Assessment Report list of least effective schools in New York State. Although the other four Syracuse magnets depicted in Figure 34 demonstrated substantial improvement in reducing minority isolation, it is apparent that one needs to take a hard look at schools such as King and Franklin to ascertain why critical indicators of magnet school effectiveness, such as minority enrollment and academic achievement, are not showing significant improvement.

But did New York State magnet schools also have an impact upon district-wide desegregation? This question was posed to magnet school principals and parents with very favorable results. According to Figure 35, 86% of the principals and 66% of the parents felt that magnet schools helped to promote overall racial balance in the school district. These ratings, therefore, indicate that magnet school effects can extend beyond the immediate school building to the district level.

Figure 35

Do you feel that the magnet school has helped to promote racial desegregation in your school district?



Comparability of Racial Composition

To determine if the racial composition in magnet schools was comparable to the district average, pre-post minority enrollment data were examined for all magnets and their school districts. The findings are presented in Figure 36, with separate graphs for high and low minority magnets and for all magnets combined. As illustrated by the "pre" magnet bar graphs, minority enrollment in magnet schools was very different from the district average in 1973; for high minority magnets, furthermore, there was a 50% discrepancy in minority enrollment. By 1983, however, the large discrepancies virtually disappeared, as the racial composition in the magnets approximated the district average. As one might expect, there were variations in findings for individual schools. Some schools, in fact, differed from the district enrollment by over 30%. Nevertheless, the majority of magnets were within ten percentage points of the district average at posttest time, and 40% were within five points of the mark. On the whole, these data suggest that the racial composition in the majority of magnet schools indeed reflected the district-wide composition.

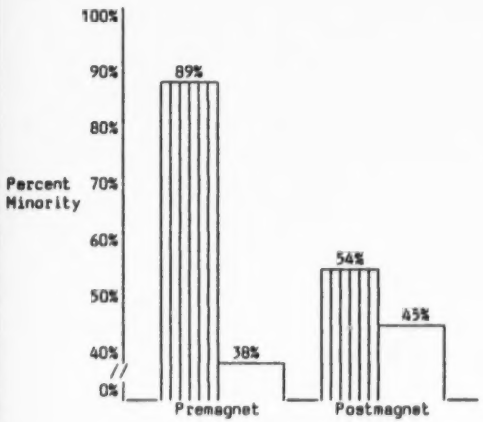
Racial Balance Summary

The examination of the racial distribution of magnet schools produced extremely positive results. Minority enrollment patterns changed significantly in magnet schools after the introduction of these programs in the school district. In the once high minority schools, the decline in minority enrollment was dramatic, averaging 35% over a 10-year period. The changes in low minority schools were also impressive, with a 26% increase being attained. Significantly, by 1983, the racial composition in magnet schools approached the district-wide average, despite the earlier differences between magnets and their districts. These data, therefore, indicate that magnet schools do promote racial balance in schools; their effects, moreover, extend beyond the immediate building to the district level.

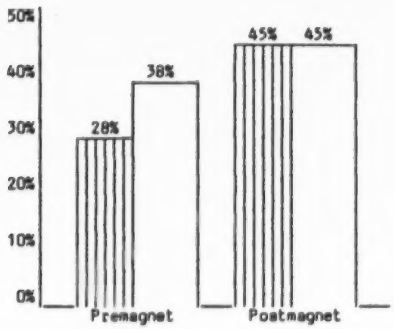
Figure 36

Magnet School Minority Enrollment Compared with District Average
Premagnet and Postmagnet Results

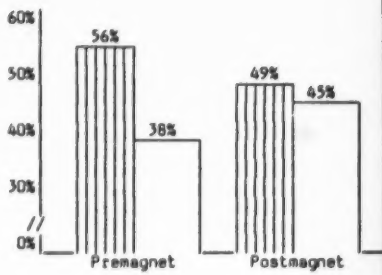
A. High Minority Magnets*



B. Low Minority Magnets**



C. All Magnets Combined



= Magnet Schools
= District Average

*Those schools well above district minority enrollment in 1973.

**Those schools well below the district minority enrollment in 1973.

CONCLUSIONS

The initial evaluation of New York State magnet schools provided convincing evidence of the educational and desegregation impact of magnet programs. The results suggest that magnets can play a significant role in revitalizing public education. In particular, magnet schools can:

- Serve as models of educational excellence
- Improve core academic subjects
- Provide equal educational opportunity
- Offer educational choice
- Restore commitment and pride in public schools

In this section of the report, we discuss specific conclusions that can be drawn from the study findings. For convenient reference, these conclusions are presented in two sections: Educational Quality and Desegregation Impact.

Educational Quality

Overall, New York State magnets were found to be quality schools that had many characteristics in common with effective schools. In particular, magnets exhibited high levels of student achievement, a strong program identity, active parent participation and a school environment conducive to learning. The major conclusions regarding educational effectiveness are summarized as follows:

Magnet schools are associated with positive student achievement.

Following the introduction of magnet programs, student performance increased dramatically in magnet schools. The gains did not appear to be due to concomitant changes in racial composition or to student enrollment procedures. Rather, magnet programs seemed to be a major contributing factor to the achievement gains. Moreover, the educational effectiveness in magnet schools had a decided effect on magnet districts, as student performance in the districts also increased after the implementation of magnet programs.

Magnet schools produce consistent achievement effects in elementary and secondary school settings, and in settings with different racial composition.

In the assessment of differential effects, magnet schools were found to work equally well for K-8 and high school students. In both cases, the analyses revealed statistically equivalent reading and mathematics achievement scores, regardless of grade level or racial composition.

Magnet schools have "holding power".

Statistical evidence showed that magnet schools encourage students both to attend and remain in school. Specifically, the average attendance rates in magnet schools were higher than district-wide averages, while the dropout rates were below the district-wide results.

Magnet schools offer educational choice and diversity through their distinctive and developed themes.

New York State magnets reflect virtually every philosophy in education from fundamental basic skills to progressive open classroom education. The degree of instructional diversity provides parents and students with numerous opportunities to choose a wide range of very rich and unique learning forums. In this way, learning styles seem to mesh well with learning needs. But while diversity and uniqueness prevail in magnet schools, there is also a common theme running throughout—the pursuit of academic excellence.

Parents of children who attend magnet schools feel that their schools play a vital role in the educational process.

Parents were actively involved in magnet school activities and strongly supported their magnet programs. They felt that magnet schools were better than other schools within the district in several areas, including development of basic skills and psychosocial awareness of their children's needs. Parents also expressed solid commitment for their schools; practically all of the parents (98%) said that they would recommend magnet schools to other parents.

Magnet schools have teachers who are confident in schools and the magnet concept.

Magnet school teachers overwhelmingly endorsed their magnet programs. They expressed high levels of satisfaction with the philosophy of the magnets they taught in, the curricular theme, and with their overall level of involvement. Futhermore, they felt that magnet schools were far superior to other schools within the district and that their program, in particular, was highly successful.

Some magnet programs succeed more than others in providing quality education.

The assessment of educational quality highlighted certain variations among magnet schools. For example, in achievement test results, certain magnet schools performed well above the district average—by 15 NCE points or more. Most magnets, however, scored near the district average, either slightly above or below this mark. Similarly, the level of parent involvement and teacher qualifications were not the same in all magnets; some schools were able to encourage more active parent participation, as well as secure more qualified staff.

Since this study did not intensively examine magnet school processes through in-depth interview or onsite visits, it is difficult to speculate on the reasons for these school variations. In the same way, it is impossible to know what the differences mean in terms of general school programming, as the study did not examine processes in non-magnet schools. Such understanding must await future research. What is known, however, is that despite their differences, all magnet schools adhere to sound educational principles and emphasize academic excellence. The majority, futhermore, have better learning outcomes than other schools within their districts. Considering that these magnets were performing well below their district averages 10 years ago, these results are impressive.

Desegregation Impact

The findings pertaining to racial desegregation revealed the following:

Magnet schools reduce isolation in the schools.

Minority enrollment patterns changed dramatically in most magnet schools after the introduction of these programs in the school district. In high minority schools, the change was especially significant; these schools averaged a 35% decline in minority enrollment over a 10-year period (1973-83). The evidence suggested, moreover, that magnet schools had a correspondingly positive effect on district-wide desegregation efforts. Both parents and principals said that magnet schools helped to promote overall racial balance in the school district.

Magnet programs have achieved their desegregation goal.

The racial composition in the majority of magnet schools currently reflects district-wide averages, even though there were very large discrepancies 10 years ago before magnets were introduced. For example, in 1973 there was a 50% discrepancy between many of the magnet schools and their district averages. By 1983, the difference was reduced to 9%. Thus, schools that substantially deviated from their district average now have nearly the same racial enrollment composition.

RECOMMENDATIONS

The findings from the Magnet School Research Study revealed that New York State magnets are quality educational programs that effectively reduce racial isolation in the schools. These are important results and suggest that magnet schools should continue to function as models for educational excellence and integration in the State. To further advance the magnet concept, the following recommendations are offered to key State-level decision-makers.

1. **State funding for magnet programs should be continued and expanded.** We applaud the State Legislature's increased appropriations for magnet schools over the years; the monies most certainly have encouraged the maintenance and expansion of magnet programs. Nevertheless, the Division of Civil Rights and Intercultural Relations maintains a list of additional schools that would appear to benefit from the magnet concept, but funds are not available for their development. Although the initial costs for magnet schools may be higher than non-magnets, the extra spending results in better education and racial integration in these schools. Furthermore, according to the national study of magnet schools, the per pupil costs for magnet programs decline over time and eventually approximate the per pupil expenditures in non-magnets. Given these benefits, we recommend that additional State monies be allocated to other urban districts in New York State which seek solutions to problems of racial isolation.

2. **Further documentation of magnet school effectiveness is needed.** While the present report provides useful information about magnet school programs in New York State, additional objective, timely and relevant data concerning the effectiveness of magnet schools must be collected on an ongoing basis. These data can serve several purposes, including accountability, program improvement, and marketing. This latter purpose is critical for magnet schools, since their initial introduction in a community can evoke a range of adverse reactions that could unnecessarily delay or prevent magnet school implementation.

   The type of data that we suggest be gathered on an ongoing basis should include, but not be limited to, the following: student achievement, student attendance, student retention, and minority enrollment patterns. In addition, information should be sought that determines how and why magnet schools work. For example:

   - What program activities are associated with successful magnet schools?
   - What program activities are associated with unsuccessful magnets?
   - What are the essential additional costs for successful magnets?

-What types of expenses could be reduced or eliminated?

-What has been the specific effect of State dollars intended for magnet schools?

-What effect do magnet schools have on the total school district in terms of improved student performance, racial desegregation, teacher morale, and community image and pride?

-How have magnet schools affected nonpublic schools in urban areas?

-What are the unintended outcomes of magnet schools?

-How do students feel about attending magnet schools?

3. **A system of technical assistance and support is needed to promote the development and operation of effective magnet schools.** As with all broad-based school improvement efforts, technical assistance and outside support are necessary components of effective program operations. For new magnet schools, especially, substantial assistance is required to maximize the likelihood that these programs will accomplish their twin goals of reducing racial isolation and providing high quality education. Currently, two staff members within the Division of Civil Rights and Intercultural Relations have the sole responsibility of monitoring all magnet programs in the State, which total almost 100 schools. Therefore, the Division requires additional resources to provide a system of technical assistance and support to effectively carry out its mandate. In this light, we recommend that resources be made available as part of the State funding package that will permit an expanded role of State Education Department staff, as well as outside specialists, to provide newly funded and less effective magnet schools with technical assistance in critical areas of program operation. Areas where assistance may be required for these programs are: selecting magnet school themes, curriculum development or replication, staff selection, staff development, marketing the magnet program in the community, maximizing parent involvement, and program evaluation.

4. **Magnet school practitioners should have access to a formal sharing network.** In addition to the technical assistance and monitoring role that should be available from the State Education Department and outside specialists, there is a need for a formal network that enables magnet school practitioners to share their individual experiences, successes, and failures. The lead in establishing this network could come from the State Education Department. However, the ownership and leadership should rest with the professional educators in charge of the magnet school programs in their districts. This network could work collectively to increase resources for magnet school programs from state and regional sources, provide guidance and counsel to the New York State Education Department and State Legislature regarding magnet school policy, and promote the positive contributions that magnet schools make for education and the

larger community. Examples of professional networks that have played important roles in this regard are the State's Transferring Success Network, the National Diffusion Network, and the HCEEP Network of special education programs.

5. **Information about magnet schools must be disseminated.** As observed earlier, there are many schools in the State that could benefit from a magnet program. School administrators, however, must be provided with objective data to enable them to make informed decisions regarding magnet development. It is critical, therefore, that information pertaining to magnet outcomes be actively and effectively disseminated to potential magnet districts. In addition, the following groups should receive data concerning magnet school effects: State legislators, parent groups, business groups, and the research community, as well as other groups, including non-magnet schools interested in the special themes/programs of magnet schools. A variety of different dissemination forums should be utilized, including a continuation of the MAGNETGRAMS—brief summaries of research findings presented in the form of news releases—presentations to interested groups, journal articles, newspaper coverage, preparation of Magnet School Program Development Guides, and so forth.

6. **School districts with a magnet program should develop a comprehensive plan for strengthening the relationship between magnet and non-magnet schools within the district which should also include a strategy for improving ineffective non-magnet schools.** Practically every high minority school involved in a magnet program demonstrated a long history of poor student performance prior to magnet school implementation. Extra funds were desperately needed to enable school district personnel to engage in systematic planning and development resulting in a substantial educational program that addressed the twin problems of racial segregation and poor student performance. Successful implementation of a magnet school program was evident in the school's performance on indicators identified in the recent school effectiveness research (e.g., strong parent involvement, a safe environment for learning, high teacher morale, etc.). On the other hand, most school districts operating magnets had a number of non-magnet schools that were already functioning as effective schools without additional funds. However, the accomplishments of these effective non-magnet schools may not have been readily known in the community, creating an impression that only magnet schools offered quality education in the district. To be sure, there exist non-magnet schools that do not operate effectively and they require alternative strategies for improving their performance. Limited local funds, however, will necessitate highly cost-effective approaches. Strategies to improve ineffective non-magnet schools, given the above funding limitations, might include:

   -Encouraging magnet schools to share their successful curriculum products and procedures with non-magnet schools through inservice training and informal exchanges among faculty.

-Active utilization of the State's Transferring Success Program which makes available a wide variety of high quality educational programs at a fraction of the development costs through formal replication of validated programs. The State Legislature has provided funds to assist districts replicate exemplary educational programs, which makes this particular strategy very attractive.

APPENDIX A

List of Magnet Schools and Comparison Schools Involved in Time-Series Analysis of PEP Test Scores

MAGNET SCHOOLS	Percent Minority 1977	COMPARISON SCHOOLS	Percent Minority 1977
Buffalo District			
Academic Challenge (1977-78)	96.4	P.S. 45 Baisley Park	97.2
		P.S. 40 George Carver	96.2
		Nathan Hale	96.9
Build Academy (1977-78)	100.	St. Albans	100.
		Robert Fulton	81
		P.S. 31	99.7
Bilingual School (1977-78)	7.0*	P.S. 16	30.3*
		North Elementary	12.4*
Native American (1977-78	26.6**	Gowanda	26.2**
		Twin Rivers	24.2**
P.S. 8 Follow Through (1977-78)	96.0	Hollis School	95.3
		John Russworm	94.9
		George Carver	96.2
Campus East (1977-78)	98.9	Milton Olive	91.6
Syracuse District			
Danforth School (1977-78)	82.1	John Loft School	81.4
		Waverly School	81.7
Franklin School (1977-78)	4.3	Theodore Roosevelt School	4.6
		P.S. 72	4.1
King School (1977-78)	93.6	P.S. 90	93.5
		John Russworm	94.9

*represents Hispanic student enrollment
**represents Native American student enrollment

APPENDIX B

List of Magnet Schools Involved in Standardized Test Data Analysis

Magnet School	Percent Minority (Year Before School was Introduced as a Magnet)
Newburgh District	
Gardnertown Elementary School (1979-80)	11.9%
Horizons-On-The-Hudson (1980-81)	48.9%
New Rochelle District	
Daniel Webster Elementary School (1982-83)	49.2%
New York City District	
Jamaica High School (1982-83)	43.1%
Beach Channel High School (1982-83)	42.1%
Hillcrest High School (1982-83)	34.2%
E. R. Murrow High School (1982-83)	26.9%
Poughkeepsie District	
Samuel F. B. Morse Elementary School (1980-81)	72.2%
Syracuse District	
F. Ware Clary Middle School (1982-83)	47.7%

APPENDIX C

Characteristics of Successful Magnet Schools

- Written philosophy of the specific magnet school to be developed.
- Commitment on part of administrator to that philosophy.
- Commitment on part of teaching staff to that philosophy.
- Voluntary nature of working in a magnet school.
- Curriculum unique to that model.
- National search for best available program (not reinvent the wheel).
- Emphasis on staff training with administrative participation.
- Involvement of public in generating ideas for designing the magnet school (stakeholders).
- Creating the magnet school in locations that may have had diffi culty in the past attracting whites.
- Effective marketing/promotion of the new school—create image of scarce and valuable program.
- Clear expectations of teachers/administrators as to what is expected in each magnet—they must agree to whatever the design calls for in implementing the model magnet school.
- Union participating in the selection of staff for the magnet schools.
- Use of program coordinator in schools to supplement principals (about 1/2 of principals were judged to be too weak to do this on their own).

SOURCE: In-depth interview with key magnet school administrators, Buffalo City Schools.